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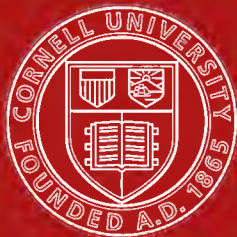
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A LESSON IN PATRIOTISM

OPEN AIR CRUSADERS

THE INDIVIDUALITY OF THE CHILD
VERSUS THE SYSTEM

TOGETHER WITH

A REPORT OF THE ELIZABETH McCORMICK
OPEN AIR SCHOOLS

BY

SHERMAN C. KINGSLEY

DIRECTOR THE ELIZABETH McCORMICK MEMORIAL FUND

ILLUSTRATED



THE ELIZABETH McCORMICK MEMORIAL FUND
315 PLYMOUTH COURT, CHICAGO, ILL.

1913

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THE ELIZABETH MCCORMICK MEMORIAL FUND

First Edition, 5,000, January 10, 1911
Second Edition, 5,000, March 1, 1911
Third Edition, 5,000, January 1, 1913

The Lakeside Press
R. K. DONNELLEY & SONS COMPANY
CHICAGO

Dedication

TO THE MEMORY OF ELIZABETH, DAUGHTER OF MR. AND MRS. CYRUS HALL McCORMICK, A CHILD WHOSE RADIANT YOUNG LIFE WAS SO MARKED BY DEEDS OF KINDLINESS TO OTHERS THAT THESE MINISTRIES OF LOVE WERE NOT ALLOWED TO CEASE WHEN, AT THE AGE OF TWELVE, SHE WAS CALLED INTO THE PRESENCE OF THE GREAT FRIEND OF ALL THE CHILDREN.

PREFACE

The open air school movement is one of the newer expressions of an awakening public interest in the children of the nation. It will be both natural and logical if conservation principles and sentiment lead us step by step from coal and iron, phosphates and oil, forests and water power, to the intrinsic conservation problem,—the consideration of the men, women and children who are to use these resources of nature.

The greatest possibilities lie with the children. Roundly, twenty millions of them are in the schools of the country. They are spending one hundred million hours a day through the school year under the direction of this definitely constituted public function, in the environment and under the conditions prescribed by the law. So far, the only efficiency tests applied to measure the success of this great undertaking have been those which gauge the ability of the children to pass from one grade to the next in the series leading to the college. We do not know whether the school experience has increased or diminished bodily vigor or whether the use of school time has done the most vital possible service in preparation for what lies ahead.

The attention of an increasing number of people is focusing on the large army of children, somewhere between 53 and 70 per cent of the total number the country over, who fall out of school at or before the completion of the grammar grades. Conspicuous in this group are those whose physical condition has stood in the way of school progress and has rendered them incapable of taking with profit the usual school régime.

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It is children of this class who have been gathered by friends of the movement into the open air schools.

The results obtained through a modified régime which has adapted the curriculum and the use of the school time to the individual needs of these little people have been such that the open air school idea has spread with great rapidity and stimulates interest and co-operation in the schools wherever it goes. The friends of the movement believe that it has a broad significance and that it throws a strong light on the question of retardation and the reasons why so many children at such an early age part company with the schools.

The children dealt with in these schools are physically sub-normal, but in most respects their problems are the same as those of the rank and file of the short term children. They come from the public schools and are, after all, mentally and morally just such pupils as are found bending over the desks of any school room in the land.

The open air school is a movement in behalf of all the children. Each child has a right to fresh air; has a right to his own individuality; a right to be understood by the school, as well as to be expected to understand the school system.

Two years ago a little book entitled "Open Air Crusaders" told the story of the first year-round open air school in Chicago. It set forth in simple form the results of a year's work with a small group of physically sub-normal pupils. The smiling faces of these little open air crusaders carried a message of health, encouragement and cheer the country over. Everywhere it met with an instant response. Teachers, physicians, nurses, tuberculosis societies, ministers, humble fathers and mothers, school children, wrote for information. It revealed a widespread, deep-seated interest in the public schools. The first edition of 5,000 was soon exhausted and a second edition of like number was published and distributed. The books have gone to every state in the union and to nine-

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teen different foreign countries. A large correspondence with outside cities has resulted and the exchange of experiences is increasing.

This third edition is based on a wider and longer experience. The chapters which follow report on the operation of four open air schools and seven open window rooms, and relate the findings of the medical staff, the results of the different experiments in feeding, clothing, and general administration.

This movement has again demonstrated the deep interest of the public in our schools. The hearty and efficient co-operation of individuals and agencies at every point where help could be extended indicates that there is a world of interest and power to be drawn upon from the public for the furtherance and improvement of our educational system. This co-operation has come from physicians, laymen, nurses, philanthropic agencies, public and private, and civic bodies. The interest and enthusiasm of the teachers and physicians have been peculiarly gratifying. They have made the cause of these little people their own and have spared nothing that they could do. The same spirit has animated all those who have had a part in the work and we wish to accord to one and all our sincerest gratitude for their whole-hearted, efficient service.

SHERMAN C. KINGSLEY.

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THE OPEN AIR SMILE

THE OPEN AIR SCHOOL AND THE PUBLIC SCHOOL SYSTEM



The open air school is one of many movements through which boards of education and an increasing number of agencies and individuals co-operating with the public school system are to-day trying to serve the rank and file of the children of our country. Specifically, it is one of the efforts in behalf of the "ninety and nine."

The school system has so long been aimed at the college and the one per cent of the pupils who finally reach our educational goal and graduate from the college that it may safely be assumed that this one in the one hundred will continue to have ample provision for training. Far from begrudging this opportunity to the college student, a proud and generous public will see that the college grows and that all the avenues of learning leading to it are kept open and still further diversified and enriched as time goes on, and all will glory in this fact.

But the day of the ninety and nine has arrived. They are to have their innings. The sentiment voiced in a familiar hymn, "There were ninety and nine that safely lay," seems to have possessed our people and has lulled them into entire complacency about matters pertaining to the children and the schools; but as applied to our school situation, this idea is

taking us in the wrong direction and needs to be reversed; for, as is now beginning to be understood and appreciated quite generally, the trouble concerns the ninety and nine. The one "far out on the hills away" is in college and is very well taken care of so far as opportunity for education and training is concerned. However, no one will urge that even this one does not still need considerable thought and attention.

The open air school has grown out of very close and personal relations and acquaintance with individual children and an equally close understanding and familiarity with conditions surrounding the child life of to-day. The children in these schools are among the first of the ninety and nine to fall out of school. They are part of that large army which in the fifth grade begins effectively and finally to part company with the school system, and which pours out in increasing numbers until, the country over, about seventy per cent of all who start are finally separated from school influence at or before the completion of the eighth grade. A little over six per cent finish the four-year high school course, and one out of the one hundred finally graduates from college.

Physicians and social workers have been coming upon these children who so early leave the school in increasing numbers, and through new points of contact. One of the newest avenues of introduction opens even before the child is ready for school, through the Infant Welfare stations, baby hospitals and baby dispensaries now rapidly multiplying in all our cities. This has revealed the startling fact that being a baby is the most hazardous occupation in the world; for one out of every six dies before his first year has expired, and the diseases and conditions which cause this frightful mortality leave their mark on many of those who live and a little later sends them to school with low vitality and weakened resistance.

Two hundred and eighty thousand baby deaths in a year

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in our country tells a big story of the perils and the ignorance prevailing in baby-land, through which all the candidates for school must come. But the doctor and the social workers have seen these children in many other relations — in the juvenile court, in the institutions for dependents and delinquents, in the welfare departments of factories and stores, in insanitary tene-



FIFTY PER CENT OF THE CHILDREN OF THE UNITED STATES ARE NOW REARED
IN CITIES AND TOWNS

ments and homes where social workers have been trying to throw props around disintegrating families, and particularly in the conditions revealed through the tuberculosis clinics which are coming to be a part of the social machinery in our large cities.

The country has begun to realize that a profound change has taken place. One hundred years ago only about three per cent of our people lived under city conditions. It was only about twenty-nine per cent in 1880, but according to the last census about one half of the children of the nation are now being reared under town and city environment. They

have gradually been taken from the farm and the ranch, from the house with a garden and a yard, and the simpler and more elemental conditions of life in the open have been replaced by those of the flat and the tenement. They have gathered into the city centers from every county and hamlet in our country, from the countrysides and villages, from farms and gardens and vineyards of every country in the Old World. Every city has its congested areas and is rearing a big percentage of its children in flat and tenement; the back yard gone and the front yard cut away, and the children turned over to the uncertain vicissitudes of the streets.

Along with this change has come another related to it and equally profound. In the earlier day, and under simpler conditions, the home was not only a place of nurture and care, but of recreation, training in consecutiveness, responsibility, initiative, and of general education. There was an opportunity for the children to help about the house and take part in many of the processes necessary to the home. They brought in wood, fed and cared for the animals, planted in the spring, helped to tend the garden and the crops in the summer and harvest them in the fall; they churned, helped to cure meat, they learned to do many other useful things. This life kept them much out of doors and in the open. This has changed. In the homes of the rich and well-to-do, ready-made and ready-to-serve luxuries and necessities are provided for the children; in the homes of the poor, as many ready-made and ready-to-serve necessities as can be afforded. The schools complain that the children want to be entertained and that parents will not stand back of the teacher for the drill and discipline of an earlier day. Parents, on the other hand, rebel at the nervous strain and the tax on the health and vitality of the child.

In so far as the public has been cognizant of this transition, it has unconsciously assumed that the school would automatically do for the children everything that the home has

yielded and that new conditions demand. Much progress has been made in this direction, but without public understanding, backing and support it will be impossible for the schools to assume all that has been given up by the home and furthermore prepare the child for the equally profound change in the industrial world to which he goes on leaving the school. The schools have had a heavy task as it is, and continuing as they have under the dominance of the college, they have proceeded in the best way they could, handling too many children to the teacher, and with a sort of military precision about the whole régime. Unlike the merchant or manufacturer, they have not been concerned about raw material. In industrial enterprises the business man must scan the world and must know years in advance where to look for the raw material upon which he may apply the magic of his manufacturing processes. It is different with the schools. They have always known that on every September morning when the new school year opened there would be a roomful of children waiting before each door. Then it has been the business of each teacher to "shoo" the brood which falls to her lot a certain intellectual distance, invariably in the direction of the college on the hill. At the end of the school year the opposite door opened and the children dissolved back into the community. The community giveth and the community taketh away. Each grade has so many children; there are certain studies to make, so high a level in marks required to pass. If the pupil fails in one thing he must take the whole course over again. If he cannot handle one item on the bill of fare he must eat the whole menu over.

One school in a prominent city of 25,000 thought it had no retardation problem. One day a little girl was discovered who had sat for five years in the same grade. A study of retardation was begun and a thousand retarded pupils were found in that city. Chicago has found 69,000 children from one to three years behind in their grades.

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The problem of retardation is challenging the attention of the nation.

When we come close to this army of children who have fallen behind, we find all kinds of conditions prevailing among them. When any city takes a map of its community and indicates on the map the places where the retarded children live in largest numbers, they are led back to the congested parts of the city; to unsanitary dwellings; to the homes of the poor; to the tenements which kill babies and harbor and foster consumptives; to the weak spots in the community.

The friends of the open air school movement, physicians, social workers and nurses, know these little people; they have become acquainted with children running temperatures of 101 to 102 degrees, sick with an active process of tuberculosis, children whose home life and home conditions are such that they cannot possibly go to school with profit, children who cannot see the blackboard, who cannot hear the teacher's voice, children with adenoids, with enlarged tonsils, with physical defects of many kinds and of varying degrees in their blighting, retarding influence. They have observed that a school system that marches ruthlessly toward the college does not give ample or adequate consideration to these children. These workers have tried to find employment for such boys and girls, and have been impressed by the inadequacy of their preparation. The doctors have tried to strengthen and mend the imperfect or broken mechanism of the bodies and to build a basis for greater brain vigor. The social workers have tried to give the children a chance and find them employment. The inadequacy of their training and the pitiful spectacle of these little weaklings trying to run that race which is only to the strong is moving and pathetic.

The open air school with its special consideration, its adaptation of the curriculum and régime of the school to the needs of the children, and the thrilling spectacle of children

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growing stronger, increasing their resistance and the vigor of their minds, acquiring new eagerness and joy of life, has been most gratifying. It has afforded another look into the school system; it has shown the problems of these little people to be akin to the problems of many other of the ninety and nine who quit the schools immature in body and unprepared for the duties of life.

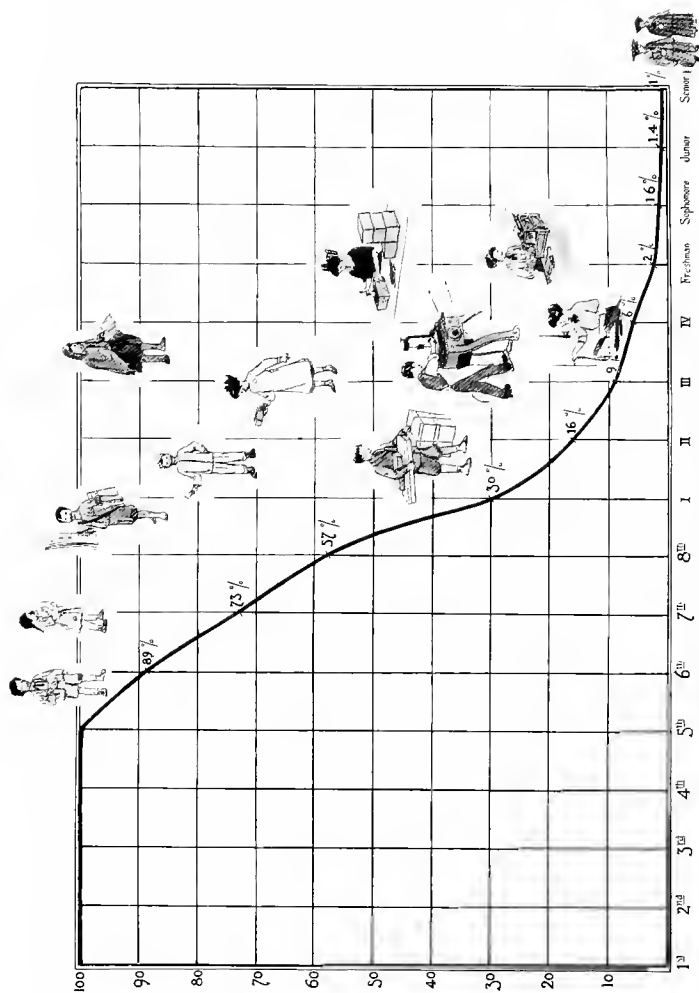
The open air school is an appeal and a challenge for the fresh air rights, for the sanitation and hygiene rights of every



SCHOOL GARDENING ON A CITY ROOF

one of the twenty million school children. It also offers an appeal in behalf of the individuality of every child and a reward to the teacher and the school system and to the state of which they are a part for the recognition of that individuality.

We have been taught the value of manual training in reformatories. Some of our best lessons in teaching have come from the schools of the feeble-minded; we have learned the value of sunshine and fresh air from consumptives. How sick or abnormal must children continue to be to get their rights?



Reproduced by courtesy of the City Club of Chicago from Report on Vocational Training.

ELEMENTARY SCHOOLS

HIGH SCHOOLS

COLLEGES

Adapted from a chart by Mr. E. A. Wright, 'Percentage of pupils retained in Chicago public schools, according to school report of 1910', to indicate occupations open to children leaving school.

DOES A SCHOOL SYSTEM AIMED AT THE COLLEGE HIT THE MARK?

THE SCHOOL REGIME AND THE SHORT-TERM CHILD



As a background for the material set forth in this book, a glance at the accompanying chart may be of interest. It is a diagram based on figures from the 1910 report of the public schools of Chicago. The chart as originally made was worked out by Mr. E. A. Wreidt of the Committee on Education of the City Club of Chicago. It is a graphic representation of the falling out process and

shows the percentage of children retained in the successive grades of the Chicago schools to the end of the high school course.

Using Mr. Wreidt's diagram as a base, we have attempted to suggest some of the employments open to the boys and girls as they drop out of school in the lower grades, and have also carried the idea through to the end of the college course to show how many pupils out of one hundred finally get through the college, which has so largely dominated the educational system in this country. The percentage of students who finish college is somewhere between one and two per cent; but since the college graduates both men and women, they are given the excess showing. The part of the chart which is our own is far from satisfactory, but we offer it for whatever of suggestiveness it may afford in the discussion

concerning short term children and the dominance of the school system by the college. The schools concern "all the children of all the people," and our plea is that they should go more effectively with the children who cannot go far.

Mr. Wreidt's figures for Chicago and the line depicting the elimination is substantially the same as the result reached by Professor Edward L. Thorndike of Teachers College, Columbia, and published in a monograph entitled "Elimination of Pupils from our Public Schools." Professor Thorndike's work was based on figures from the schools of a number of large cities, and while his figures indicate an earlier beginning of the falling out process than is indicated in Mr. Wreidt's chart, both are in agreement that the process begins early, and the two are agreed as to the results at the end of the grammar grades, viz.: that about seventy per cent of the children leave school at or before the completion of the eighth grade, and that about six per cent graduate from the high school.

Dr. Leonard P. Ayres in "Laggards in Our Schools," page 71, by a different method of computation and compilation, shows a chart which places the number eliminated at the end of the eighth grade at about fifty-three per cent instead of seventy per cent (according to Prof. Thorndike's statement), and concludes that about ten per cent finally graduate from the high school instead of six per cent.

Many different reasons are assigned for this early separation from school. Among them, however, are the economic situation, the failure of the school to grip the child's interest, and questions of health.

Lack of success in school studies is doubtless one of the greatest single causes which impel pupils to drop out of school.

To what extent this lack of success has a physical basis, nobody knows. Medical examination has revealed many facts concerning the physical conditions of school children, but medical examination in most schools is very superficial and

detects only the more outward and apparent defects, such as those of vision, hearing, adenoids and teeth.

The experience with children in the open air schools throws some light on this phase of the problem because of the closer relation, the more thorough examination and detail medical work.

During the school year immediately preceding her admission to the open air Mildred had made repeated attempts to attend the public school, but she was unable to climb the stairs which led to the school room without suffering from severe headaches, and her physician finally forbade her attendance and advised her living out of doors. The only outdoors accessible to Mildred, whose father was an Italian day laborer trying to support a family of seven on a weekly wage of \$10, was the dust and dirt of the street. There was not even a park within walking distance of her home, and car fare was out of the question. After this enforced vacation she was so eager to get back to school that she tried three times during the following September, but succeeded in being present only two and one half days in all. In February she heard of the Open Air School, made application at once, and was admitted. The physician's examination disclosed the fact that Mildred was in the incipient stage of tuberculosis, and badly needed fresh air and nourishing food. She got both at the Elizabeth McCormick Open Air School. The elevator service to the roof removed the necessity of climbing stairs.

Her headaches disappeared. She did not miss a day that year, and completed the seventh grade work in half the required time. During the second year in the open air she kept up a practically perfect record of attendance, and successfully completed the eighth grade. The physician pronounces her now entirely free from tuberculosis and able to do light work. Her whole attitude toward life has changed with the discovery that the discouragements of her early

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school days were not necessarily to be typical of her after experience.

Mildred was fortunate enough to be so far from well that her poor attendance and irregular recitations could not be attributed to stupidity. Tony, on the other hand, looked perfectly well. He large class of boys overgrown, dulling, begrudging that must be given lagged behind he was only in the teachers with nounced him discouraging had both scholarship that a petition had to have him parental school as

A visit to vealed some of the linquency. Tony try from Italy six had never been well since. The family lived in four small rooms fronting on a dirty alley. Tony, with his two brothers, slept in a dark bedroom which had but one window, and this was never opened.

After a short period in the Open Air School he showed such a desire to improve that he was allowed to try the fifth grade work and in June was passed into the sixth grade. He became tractable, a favorite with both teacher and pupils, and as indicated, made two grades in less than a year.

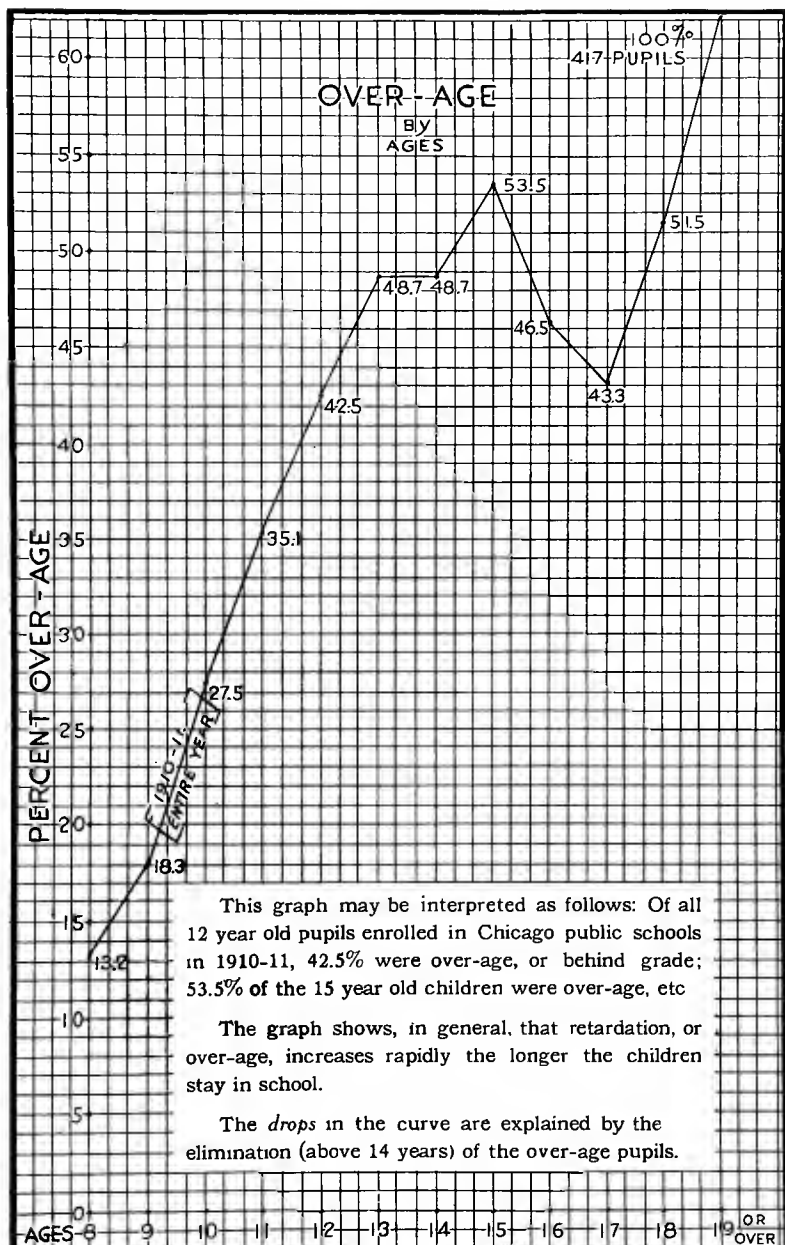
Morris was very poor in his work when he first entered the



Tony

belonged to that which most teaching the room; eyed, fond of teasing every moment to school, he had until at thirteen fourth grade. His unanimity pronounced "hopeless." So been his record in and deportment already been filed transferred to the unmanageable.

Tony's home reasons for his became to this country years ago. He



Courtesy Mr. E. A. Weidt

Open Air School. He took no interest in his lessons and required to be urged to accomplish any seat work at all. His interest increased so rapidly, however, that one by one he brought his favorite playmates to seek admittance to the school. They were, to his disappointment, too well to be admitted. As Morris's health improved he began to consider the rest periods a waste of time, so anxious was he to spend every minute possible upon his work.

In the closed window room Morris had never made trouble. He lacked the initiative of Tony; but he had been absolutely listless, and with no desire to remain in school. He will never be a brilliant man, but he can become very useful, and his attitude towards school will be friendly.

These stories are typical of experiences with children in the open air schools. All these children were in the group that would be called retarded and destined for an early separation from the school. In the studies made of retardation, it is discovered that about thirty-three per cent of all the pupils in the school belong in the retarded class.

This is not at all a problem concerning a few underdeveloped or feeble-minded children. It is one affecting most intimately perhaps 6,000,000 children in the United States.

The tendency everywhere is for the behind-grade children to drop out of school. As shown elsewhere, the child who is below grade eight at fourteen is more than twice as likely to drop out as the child who has reached the eighth grade and fifteen times as likely to drop out as the child above grade eight. A common school education is regarded everywhere as the minimum for a child brought up in America. But when it is shown that 70 per cent of the children leave the schools altogether at or before the completion of the eighth grade and when it is further realized that this whole group averages about a fifth grade accomplishment, the gravity of the situation becomes apparent.

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In Chicago 65 per cent of the children leave school at 14 years of age; 77 per cent leave before they are 16 years old.

Of those who leave school between 14 and 16 years of age, nearly three fourths leave in grades below the eighth; over one half leave in grade six or below; over one third leave in grade five or below; only 4 per cent attend high school.



The chances* that a 14-year-old pupil will remain in school are 2.1 times as great in grade 8 as they are below grade 8, and 15.2 times as great above grade 8 as they are below grade 8.

* "Chances" in the mathematical sense of "odds."

Courtesy Mr. E. A. Wreidt.

Here we have a condition where failure to make grades further congests the schools and increases the number of pupils to the teacher, while at the same time the congestion in the schools, the large number of pupils to each teacher, the inability to individualize and understand children, increases the retardation. The pressure is constantly put on the teacher to get her children through the grades in somewhat the same fashion that a salesman is rated and compensated, according to the amount of goods he delivers. The teacher feels that she will be ranked by her ability to deliver the children to the next grade. This is all natural enough, since

the school courses are dominated by the colleges and universities. The law is likewise inelastic and enables the children to drop out at 14, making a definite age limit the standard rather than the child's manual, intellectual, or physical ability to begin work.

In this country we have not in any large way tested the results of our schools and the experiment of rearing the children so largely in town and city environment. A few years ago England was led to an examination of her living conditions and to consider her human resources. She sent her troops to South Africa to fight some Dutch farmers. Under the stress of the campaign, the men fell ill in large numbers. They could not fight and endure as British armies fought in the days when they were drawn from the yeomanry. When England went back to Liverpool and London, Manchester, and Birmingham to recruit the ranks, she found a condition among the people bred and reared in her congested industrial centers that startled the empire awake. Statures had shrunk and the men did not come up to grade. The stuff that makes for day's work was disappearing from the arms and legs of the sought-for soldiers. In order to get recruits the standard had to be lowered.

Since then her statesmen and people have been busy trying to devise ways to counteract the conditions that are bringing these results. England is considering pension and insurance plans of all kinds and is thoroughly aroused.

It ought not to require any such demonstration as this to enlist the sympathy and action of the people in behalf of the children. The facts concerning infant mortality that are becoming known, the figures revealed in the work of medical inspection, and the facts disclosed in children's courts and institutions ought to be sufficient to influence the educational policies of school authorities and to bring to the school people that intelligent co-operation and backing from the public

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that will make it possible to do for these children the thing best calculated to insure useful and satisfactory lives to themselves and to the community. To again quote from Dr. Ayres:

“The administrative reforms which must be brought about consist mainly of more thorough and better medical inspection, courses of study which will more nearly fit the abilities of the average pupil, more flexible grading, and, most important of all, a better knowledge of the facts. We must have better school records and we must learn to interpret them more intelligently. It is far from creditable that in hardly a city in the country can the school authorities tell how many pupils begin school each year, or how fast they advance, or what proportion finish or why they fall out, or where and why they lose time.”

Eat, eat, keep on eating,
Sleep, sleep, keep on sleeping,
Breathing fresh air night and day,
Happy in our work and play.

We're going to the country,
Hurrah! Hurrah!
We'll take our blankets with us,
Our Eskimo suits of gray.
We'll take our teacher with us,
Hurrah! Hurrah!
For off to fair Algonquin
We're on our way.

Now, if you'll kindly listen,
We'll tell you why
It's easy to grow husky
And never, never die.
We're going to the country,
It's truly so,
And it's eat and sleep and good fresh air
That makes us grow.



"WE ARE GOING TO KEEP HEALTHY, ALL RIGHT, ALL RIGHT"

A COMMUNITY PROGRAM FOR FRESH AIR EDUCATION



Getting fresh air into school-rooms is not a problem peculiar to great cities. It concerns every community that sends children indoors to school. Indeed, the smaller the town the more apt is the ventilation of its public buildings to be poor. The country church, where one alternately roasts and freezes, and the town hall whose windows are black with the undisturbed cobwebs of generations of hoary spiders, weekly contribute their share toward tearing down lung tissue which the

sweet, clean air of the open fields has built up.

In such communities a ventilating system, once installed, is regarded with superstitious awe. In a little Northern Minnesota town, the same man, appropriately enough, is both village undertaker and school janitor. He objects seriously if his avocation of coffin making, carried on in the school basement, is interrupted, especially by any complaint about the quality of air in the school room. One act, however, will bring him on the double-quick. If a teacher dares to open a window, in sweeps this stanch defender of the system, ready for a veritable set-to. So the pupils yawn day after day in an

attempt to focus stupefied brains on lessons that ought to be interesting, while just outside the windows the Minnesota sunshine sparkles through crisp, fragrant air blowing straight from the pine woods where they are building sanatoria for the benefit of consumptives.

A church janitor was asked about details of preparation for an evening service at which it was especially desired to spiritually refresh and invigorate the congregation. There was a strong atmosphere of previous meetings in the stuffy, tight-closed room. The janitor urged that opening windows or doors would further chill the room, and explained that he always relied on "gas and breath" to warm it up.

A superintendent of schools in a Wisconsin town reports that in the year before she came to her present position two teachers received letters from the board of education, warning them that they stood in peril of dismissal if they continued to open the windows of their class-rooms.

"There may be perfectly ventilated school buildings," says Mrs. Ella Flagg Young, superintendent of the Chicago public schools, "but it has never been my good fortune to visit one. In the East and in the West, one recognizes the same stale conditions in the atmosphere of school rooms. It is no reflection upon the architects and engineers of buildings in which large numbers of persons are congregated to say that the problem of ventilation is unsolved. The development of sanitary science and the interest of members of the scientific and medical professions in the possibilities underlying such science, give promise of better conditions in the near future with regard to ventilating and lighting buildings for the children and young people than have yet been worked out."

Sir John Gorst in "The Children of the Nation," records the results of a scientific investigation into the condition of the atmosphere in schools in Manchester and Salford made by Dr. Bayley of Owen's College. "He classified the schools

examined into five classes according to the degree of foul air and smell which prevailed in them. No school rose to the first or second class. There were only two in the third class, and in them the class rooms were reported to have 'air very oppressive, giving rise to headache.' In other schools, 'the odor in the class rooms especially was simply unbearable.' The air was tested for carbonic acid gas. The standard accepted in the wards of hospitals is that if there are more than 6 parts in 10,000 of carbonic acid gas, the air is regarded as polluted and unfit for the patients to breathe. Not one of the schools examined came within the unpolluted zone. In the best school there were 7 parts in 10,000, and 10 in the class rooms; in the worst 12.8 parts in 10,000, and 14.5 in the class rooms. The air was also tested for micro-organisms. Pure mountain air is quite free from micro-organisms, and air in the streets of Paris contains only 25 per cubic foot, whereas it was found in one of the Salford schools examined that in the infant school there were 213 micro-organisms per cubic foot; in the boys' school, 236; and in the girls' school, 286. In many town schools there is now excellent ventilation, but many are still in the condition in which Manchester schools were when examined by Dr. Bayley. In the country, especially, where there is the best of air all around the schools waiting to be let in, the air which the children are made to breathe is atrociously bad."

Bad ventilation is not confined to the schools. Theaters, street cars, public halls and conveyances, transgress equally. But the schools are the only places where the law compels attendance. It is a serious matter when a school into which a child is forced actually contributes to his decline. The dull and backward pupil who cannot get his lessons is often kept after school. He has sat for hours at a rigid desk in an unnatural posture, in an overheated room, the overdry, thirsty air sapping his already wilted system, the windows of the school never opened because the janitor, the ventilating en-



AT CAMP ALGONQUIN—A SCHOOLROOM WHERE THE VENTILATION AFFORDS NO DIFFICULTIES

gineer, and perhaps the teacher, who likes to have the thermometer seventy-five or higher, say, No. To meet such conditions, which are common in every part of the country, some sort of community plan for fresh air education is necessary.

In a recent number of a standard periodical, Burton Hendricks described the steps which Chicago is taking in this direction under the title of "Oxygenizing a City." The three-year-old son of a Chicago physician puts it with equal picturesqueness when he says: "Well, daddy, it is time for me to go out and fresh-air myself."

For several reasons a community plan for "fresh-airing itself" properly begins with the public schools. They are the only places where large public gatherings are compelled by law, and as such they are directly under the control of the law. The law cannot interfere with a man's home unless conditions there constitute a nuisance. It can and does send his children to school, even though health conditions there place the school itself in the nuisance class. But public education must not be miseducation. The school reaches into every home and draws into itself for the precious period of childhood each young life in its turn. Any lessons in right living successfully taught in the schools immediately react upon the home; for in reality it is the children, not adults, that make the home.

The child who has sat all day in a well-ventilated school-room will not submit to sleeping in a steam-heated flat with all the windows closed. Children are more easily accustomed to a change in temperature than adults; they respond more quickly to the beneficial effects of the fresh air. The dissatisfaction with present methods of ventilation in the public schools is so widespread among both parents and educators that the ends sought by the fresh air school movement meet with universal approval.

As a first step in a fresh air program, try the air the pupils

OPEN AIR CRUSADERS

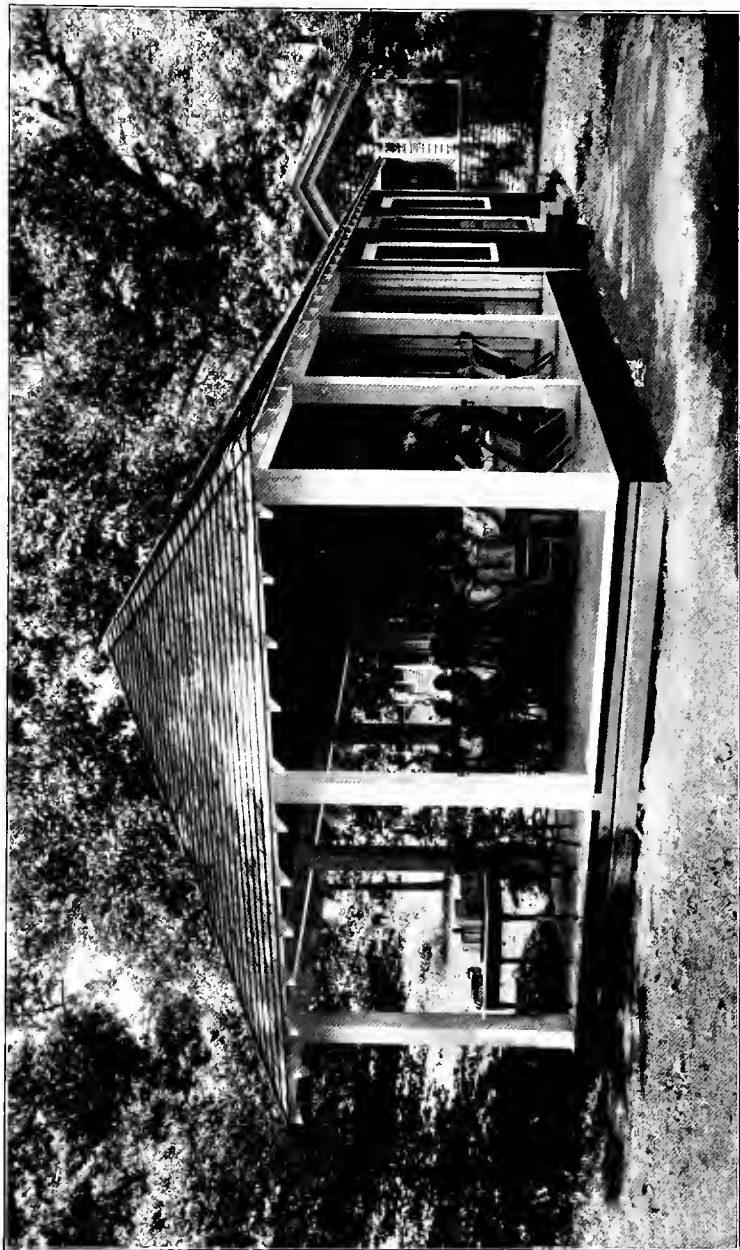
are getting now. Get an expert ventilating engineer from another city to make careful tests in every school. The local papers will be glad to publish the results. But do not stop there. Get members of your Woman's Club to visit the assembly halls and class rooms, and notice the effect upon your own brains of the air which the children are compelled to breathe five hours a day. A thermometer will give the temperature and a simple device called a hygrometer (a little instrument about the size of a watch and costing around two dollars and a half) will give an idea as to the humidity.

A Chicago physician visited the schools in an Iowa town, and found the thermometer ranging from 73 to 86, with conditions of humidity correspondingly bad. He also visited a number of factories in the town and found the conditions there uniformly better than in the schools.

Undoubtedly, the temperature is often too high in most of our schools, with consequent over-dryness of the air. The range of temperature set by the Chicago school board is minimum 68 and maximum 72. We are all familiar with the discomfort of an overheated room, and while fresh, pure air is the prime consideration, overheating causes its own discomforts and stupefying effects.

One of the elements of difficulty in the situation is the method of dress on the part of both pupils and teachers. No one can expect two girls sitting side by side to be comfortable in the same temperature, one with heavy underwear and a woolen dress, while the bare skin of the other shows through a lingerie waist. If each one knows beforehand about where the mercury will stand, there is a possibility of dressing accordingly, and there need be no just grounds for complaint from the parents.

Do not be dismayed if the new significance of ventilation and fresh air discredits the system of which you have been so proud. You have one great known quantity. There is



ELIZABETH McCORMICK SCHOOLS AT CAMP ALGONQUIN

OPEN AIR CRUSADERS

an abundance of fresh air outside every door. A good teacher, a live school board, or an interested citizen can often turn the tide and get something done. "I now think," said a nurse, "that my district school teacher saved me from tuberculosis. I had pneumonia when I was seven and my chest was left weak. The teacher opened all the windows and gave us gymnastic and deep breathing exercises after each recitation. We loved it because she liked it so well. All weakness of my chest disappeared that year."

The ventilation of that little community school house was just as bad as it ever had been, but the teacher dominated the situation and saved the day. If your mechanical system is so fussy that it is thrown out of commission when a window is opened, turn it off, excuse the whole system for a few minutes, open windows and doors and flush the room.

In working out a program, all the elements to be dealt with must be understood. Medical inspection should be a part of the school régime in every community. No program can be complete without it. Every child has a physical individuality as well as a mental, and it is as necessary to consider physical condition as mental aptitude. The majority of children in every community are probably fairly normal, and the thing to be kept in mind all the time is that the whole one hundred per cent have the right to proper ventilation and hygienic conditions.

In Germany and Switzerland the law requires all the children to get out of the school house into the open for ten or fifteen minutes out of every individual hour. If your children can't go outdoors so often they can exercise while windows are open.

The friends of the open air school movement are interested in all of the children and will be content with nothing short of right conditions for the whole one hundred per cent. However, there are in school beside the normal children constitut-

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ing the largest group, certain pupils who are anæmic and physically sub-normal, and a third group, smaller but in more definite need, where there are distinct evidences of tubercular infection.

For children who are anæmic and underfed, easily exhausted and nervous, the open window room, with its supplemental feeding, its period of rest, better understanding of the needs and possibilities of each individual child, is something within reach of almost any community. The rigid desks can be removed and tables and chairs supplemented; cots put in the room, and the extra expense of clothing and food can be met by churches, women's clubs or other organizations. For the third group, the open air school with its more complete régime is best suited to the physical demands of the children.

Building up the resistance of children is a necessary part of the warfare against tuberculosis and it ought to be possible to provide for any necessary feeding of school children through the forces organized to combat the tuberculosis situation.

In every community of considerable size there should also be provision for sanatorium treatment in cases of open tuberculosis among the children. This part should also be provided for through active co-operation with the forces dealing with tuberculosis in the community.

In all three classes of children will be found nose and throat defects, adenoids and enlarged tonsils, difficulties of ears and eyes. Medical inspection should not only detect physical sub-normalities but a follow-up system should correct them.

The principals of various graded schools in Louisville, Kentucky, are this year requested by the Superintendent to report the names of children who manifest a lack of vitality and energy, or who become easily fatigued, as candidates for the fresh air treatment.

The spectacle of a roomful of children, inattentive, yawn-

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ing and listless, is a familiar sight. One morning a professor said to a pupil: "Young man, do you know that you fell asleep during the lecture this morning?" The youth replied: "Now, isn't that funny? Do you know you are the third



PHYSICAL GEOGRAPHY AT CAMP ALGONQUIN

professor who has spoken to me about that this morning?" The rest period in these schools is very profitable to the children. It is better for a roomful of children to make a success of going to sleep for a period than to be making half successful efforts to keep awake through a whole session.

Detroit offers a happy example in fresh air work. During good weather whole classes are taken regularly to the lawns

which surround most of the schools, and lessons are studied and recited in the open, with pupils 100 per cent attentive and efficient. In the first two months of the experiment, September to October, 1910, 6,326 class sessions were conducted in this way. The verdict from teachers and pupils was so heartily in its favor that the number of outdoor classes has steadily increased ever since. "No teacher who has tried it has found difficulty with the discipline," say the principals.

Detroit is considered fortunate in the location of her schools, but she is no more fortunate than every other city ought to be. It is a public misfortune deliberately to choose sites for school buildings where the very nature of the location makes a playground with grass and trees forever impossible, or where noise and dirt hourly rack the nerves of pupils. Few cities plan ahead for school sites.

Fletcher B. Dressler of the United States Bureau of Education tells how an unusually intelligent board of education, composed largely of college-bred men, including three physicians, selected a school site. A new school building was to be erected in their thriving town where people always gave hearty support to any educational project. "There happened to be for sale a rather large block of land in topographically the lowest part of the town. It was a worthless piece of ground and had been shunned even by manufacturing establishments because it was low and wet. To the east was a livery stable, on the west, a block away, a flouring mill and a railway with noisy, smoky engines frequently tugging trains up a heavy grade. To the south, running along the edge of the grounds, was a little stream, which of necessity carried away surface water from the public streets. The bed of this stream was barely six feet lower than the foundation of the building. Upon this site a large brick building was erected, and into it hundreds of the children of the town were gathered."

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A central location is desirable, but town planning ought to make the schools one of the first considerations.

A growing town in Iowa reserves a block in every section of given size for schoolhouse purposes.

Mr. Wm. A. Wirt, superintendent of schools of Gary, Indiana, has made a notable contribution in his use of the playground as an integral part of the school plant and regime. Not only does it help to educate through recreation but it gives pupils more time in the open and by rotating makes it possible for a given school plant to care for more children. Winnetka, Illinois, has recently adopted the Gary plan with the result that all the children in all the schools of that town are in the open much more than before. The duration of the experiment is yet too brief to afford any conclusions but the promoters are giving their best thought and effort to the schools and are focusing their attention on the children. They are trying to make the school fit the children.

In our congested cities one asset has been, with but few exceptions, entirely overlooked—the roofs of buildings. Often where the street air is polluted by smoke, gas and dirt, the air three or four stories up will be found much purer and in more active circulation. In congested parts of the city the roof offers a good opportunity for additional playground space for open air schools and open air classes. The roof ought to be taken into consideration, always, when the school house is built. However, in many buildings where this has not been done, it costs comparatively little to render the roof accessible, and a few benches or chairs and tents or awnings will do the rest.

There are thousands of acres of unused roofs in every city, in the fashionable apartment region, as well as in the tenement district, beneath which people swelter in summer in a wholly unnecessary fashion; for relief is literally at their door. Here is an opportunity to “sit on the lid” with a two-fold benefit.

OPEN AIR CRUSADERS

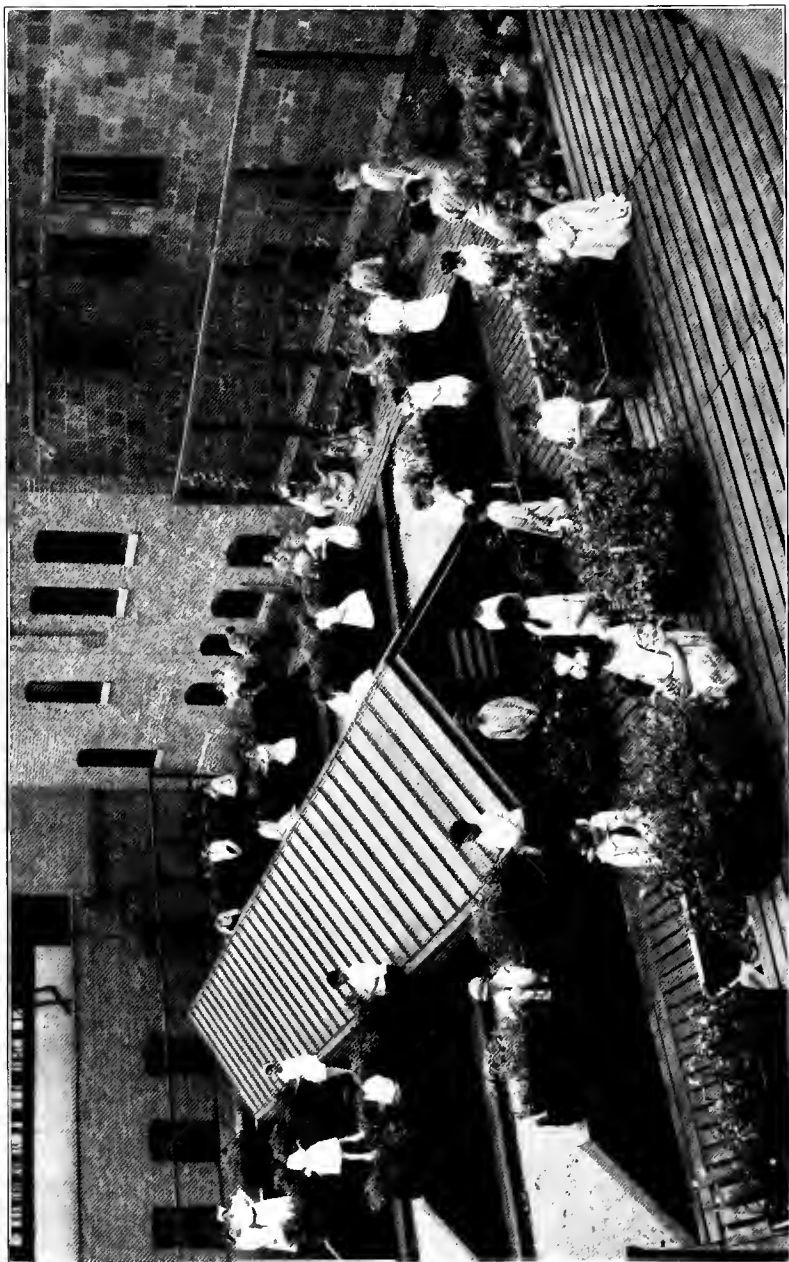
No community program for fresh air is complete that ignores the possibilities of the roof.

With the rediscovery of the benefits of outdoor life is discernible a new type of architecture both for school buildings and dwellings. New apartments advertise sleeping porches among their leading attractions. The "Wanted to Rent" columns of the press, with increasing frequency, carry requests for bed-rooms with sleeping porches. The perambulator of the scientifically-brought-up infant no longer stands by the nursery fire during the baby's nap; it is out on the porch or the screened-in veranda.

Says Dr. Thomas Carrington, in his recently published book on "Fresh Air and How to Use It": "The increasing demand for sleeping porches and other fresh air living apartments has recently brought about numerous changes in the planning of dwellings, and one may say perhaps without exaggeration that a new type of architecture has been developed. Sleeping porches, loggias, open air living and dining rooms, sun parlors and numerous windows are replacing the rooms which a few years ago were considered comfortable when snugly inclosed, but which it is believed had much to do with the great increase of tuberculous disease in the nineteenth century."

Following the introduction of fresh air into the school, must come proper ventilation in the home, and in accomplishing this end, the 20,000,000 school children are our greatest asset. When the necessity of ventilation and hygienic living become matters of conviction and general understanding, the well-to-do will insist upon embodying the new ideas in their homes and the necessity of a wage which will put the possibility of wholesome, efficient living within the reach of every person who is honestly helping to do the world's work will be more than ever apparent.

For we must admit with Dr. S. A. Knopf, that the "air which the masses get in a crowded tenement district



A NEW USE FOR A CITY ROOF.--- THE ELIZABETH MCCORMICK OPEN AIR SCHOOLS ONE AND TWO, WHICH WERE CONTINUED AS A SUMMER SCHOOL DURING 1912, TOOK GREAT PRIDE IN THEIR SCHOOL GARDEN ON THE ROOF OF BOWEN HALL

OPEN AIR CRUSADERS

is not pure enough to make them strong, vigorous and resistant to disease, even if they keep their windows open. Not until we insist upon lower buildings and wider streets, particularly in our tenement house districts, whereby more sunlight can enter their habitations; not until our old tenement houses,



A CLEVELAND, OHIO, OPEN AIR SCHOOL

and particularly our murderous lung-blocks, are replaced by model tenement houses; not until we have interspaced these model tenement houses by multiple parks and playgrounds; not until this fearful congestion which is now the curse of our civilization has been done away with; not until the suburbs of our large cities are utilized for individual homes of the masses; not until our facilities will enable the laborer to travel in comfort and with rapidity to his sanitary home; not until we have

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given him the opportunity to live modestly but decently in a home somewhat closer to nature than the dark, dreary tenement houses of our overcrowded cities, will we be able to speak of an improvement of hygiene of this class of city dwellers."

Here the open air crusaders join hands with all the other agencies for civic betterment. In trying to put this one vital necessity, fresh air, within the reach of everyone we must help along the Good Housing Commissions, the Playground Associations, the Charity Organization Societies, the Public Health Leagues, the Parent-Teacher Clubs, the Infant Welfare Committees, and all the other forces which are working together to make our cities a safer place for us and for our children.

When school and home know the physical benefits of proper ventilation, we shall not have to wait long for the passage of ordinances which will compel theaters and churches to fall into line. Offices and places of business all recognize the increased efficiency of the employees which comes when good air is supplied them. In one large office in Chicago last winter at the end of each hour a man was detailed to open all the windows and the employees were encouraged to leave their desks and exercise freely for five minutes. The working efficiency of the force was greatly increased. Our public conveyances, and all inclosed spaces where large numbers of people meet together for pleasure or for business, must conform to the new standards of the community or lose their custom.

In the Child Welfare Exhibit in Chicago a section was set apart for the Elizabeth McCormick Open Air Schools. The little tent with open windows and the snow laden pine trees were faithfully reproduced. Among the trees stood large screens which described by photographs and printed signs the work which the schools were doing in Chicago. One day a little Italian girl who looked not more than twelve, stood for a long time studying the screens. The attendant in charge

OPEN AIR CRUSADERS

of the exhibit went up to her and explained about the schools, showing her how the pupils gained in weight, and how they learned better and grew strong and well in the outdoor air. Thinking she had won a convert to the cause—for the child



HOW CLEVELAND CARES FOR HER SCHOOL CHILDREN

was painfully thin and pale—the explainer asked in conclusion, “And how would you like to go to such a school?” only to be withered by the scornful reply, “Huh! no open air school for me! Open air factory!”

Any community plan for fresh air education is incomplete which stops short with the schools and the homes, and ignores the fact that in the factories, the department stores, the offices, the dressmaking shops, and the tailoring establishments,

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where the boys and girls of to-day will be working tomorrow, conditions must also be made right. We pay heavy toll each year in preventable deaths from foul air diseases for our disregard of the simple requirements of nature.


Experts say that if all the epileptics and feeble-minded persons could be completely segregated for the life of one generation epilepsy and idiocy would be largely stamped out. Perhaps if a single generation could grow up to maturity and beget its children in the free gospel of the open air, tuberculosis, pneumonia, grip, catarrh, and all the loathsome brotherhood of foul air ills would pass away forever.


However that may be, our course is plain. It is our business to get fresh air, in the schools, in the homes, in churches and theaters and places of public resort, and in factories, offices and shops. No community plan for fresh air education can afford to ignore any place where men and women and little children sleep or play or work.


The need of protecting the child is shown by the fact that about fifty per cent of children living in the crowded districts become infected by the time they are five years old. Regulation of home conditions, better school hygiene, the segregation of actively tuberculous children, and open air schools for those who have latent tuberculosis are measures that should be applied more extensively; the more so because the child shows a strong tendency to recover, and the application of open air methods seems even more effectual in children than in adults in preventing and curing the disease.

TRUDEAU.


SCHOOLGRAMS


 HAT shall it profit a child if he gain the whole curriculum and lose his health?


 HE only air available from dark till sunrise is "night air." Breathe it.

 WO things of which there is enough for all—fresh air and sunshine. Get yours.




 WITZERLAND requires her school children to be in the open air at least ten minutes out of every school hour.

 EACH your children to make a childhood friend of the open air.

 UESTION that should be asked about the ventilating system of every school—Does it ventilate?



 E only night air that is injurious is last night's. Open the window and let it out.



CANDIDATES FOR OPEN AIR SCHOOL TREATMENT



INFECTION THROUGH FOOD

The man, who is in the third degree of tuberculosis, and who coughs constantly, is cutting cabbage for the winter supply of sauerkraut for the family

HOME AND SCHOOL—A STUDY IN SOCIAL BACKGROUNDS



The open air schools of Chicago are located in parts of the city where the presence of a congested population, housed in crowded tenements, makes a fresh air object lesson particularly desirable. The prevalence of tuberculosis in such districts led Dr. Trudeau to express the belief that fully fifty per cent of the children living under such conditions become infected by the time they are five years old. "The air is so strong in Michigan," said one young Polish woman who returned unexpectedly soon from her first sum-

mer outing on the lake-shore,— "it is too strong; it make me sick." Her home was close to a railroad track with a gas tank on one side and the stockyards on the other, and she had grown up literally surrounded by smells. Her sallow skin and colorless face showed plainly, as did her narrow chest and stooping shoulders, the results of trying to live without breathing any more than she could help. She is a type familiar to every social worker. Bad housing, bad air, bad food, the fatal trinity of the poor, take heavy toll among the children; but perhaps even more to be pitied than those who die are those who live, and for whom the most we can

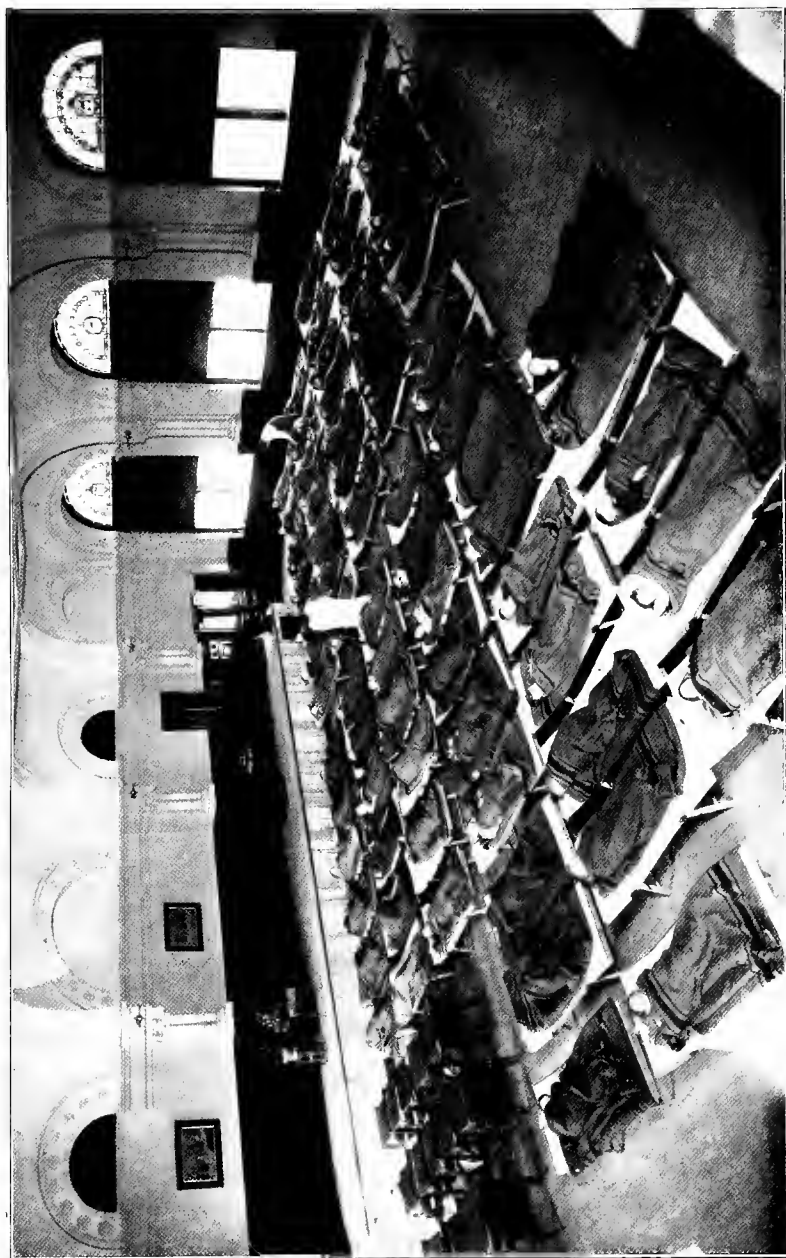
OPEN AIR CRUSADERS

reasonably hope is that they may take a feeble place in the great army of the unfit.

Perhaps the heaviest burden laid upon charitable societies from any single cause is that which results from tuberculosis. It has for many years constituted a great relief problem, but with the development of a system of tuberculosis clinics in any large city, a new and magnified duty as well as a new opportunity are laid upon the heart and conscience of its charity workers. Every day brings to their attention, men, women and children who can be saved if given a chance. This has been demonstrated again and again in every large city, but the price must be paid. We recently made a study of the income in two hundred families in which there is one or more cases of tuberculosis. These families were living on an average income of about six dollars a week. The average number of rooms per family was a little over three.

You cannot have consumption in three rooms on six dollars a week with any success. The poor cannot afford it; the community cannot afford it. The entire budget of the best financed charity organization in the world cannot adequately provide diets, sleeping appliances for porches, better living quarters, rent and an equivalent for wages which will give necessary cessation from toil to the victims of the disease. The only salvation is prevention. Direct warfare against the "White Plague" must be supplemented by flank movements which will make more and more territory impossible for the disease. Increased resistance and bodily vigor are essential and the foundations must be laid in childhood.

It is not easy and sometimes not possible, to avoid the strain put upon persons by the stress of home and business life, but it should be entirely within our power to modify or altogether remove harmful conditions and excessive strain in connection with school life. The futility of trying to stretch every youthful mind to fit an "average" which exists



SLEEPING PERIOD AT THE FRANKLIN SCHOOL, CHICAGO. THE ASSEMBLY HALL ON THE FOURTH FLOOR OF THIS PUBLIC SCHOOL BUILDING HAS BEEN CONVERTED INTO A GREAT OPEN WINDOW ROOM. THREE CORNERS, FITTED OUT WITH DESKS AND MOVABLE BLACKBOARDS ARE USED FOR RECITATION AND STUDY, EACH BY TWENTY-FIVE CHILDREN UNDER ONE TEACHER. AN EMPTY RECITATION ROOM, ON THE SAME FLOOR, IS EQUIPPED FOR A DINING ROOM

OPEN AIR CRUSADERS

only in imagination is as evident as the impropriety of forcing a twelve-year-old body into a seat built for an eight-year-old.

In the attempt to adjust school conditions to the child, it is necessary to know the kind of home from which he comes. New York City now employs, in certain of its schools, visitors who call at the homes of the pupils to secure just such information on doubtful cases. The school-nurse, if she be a person with a social viewpoint, can be of great service to the teacher in interpreting unexcused absences and unprepared lessons. She can also explain to the mother why Solomon must be vaccinated, and can threaten the father with court if Tony is kept out of school to sell papers. In the Elizabeth McCormick schools a special nurse from the Municipal Tuberculosis Sanitarium is detailed to work up co-operation in the home. Her work takes her among almost every nationality represented in the melting-pot, as the following table shows:

NATIONALITIES REPRESENTED IN THE ELIZABETH McCORMICK OPEN AIR SCHOOLS, 1911-12

Jewish	79	Canadian	5
American	59	Austrian	5
Irish	38	French	3
German	37	Russian	3
Italian	33	Scotch	3
Bohemian	25	Hungarian	2
Polish	16	Belgian	2
Negro	12	Slav	1
Swedish	8	Welsh	1
English	7	Dutch	1
Norwegian	6	Records incomplete	16
Roumanian	5		

That the "Ghetto," "Little Italy" and the "Black Belt" contribute more than their share of the children who come to the open air school for treatment is to be expected by any one familiar with the location of the schools and the conditions under which these citizens in the making must grow up. The families from which they come are large: 7, 6, 6, 6, 6, 7, 7, 8, 6, 6, 6, run the averages of the families represented in the

OPEN AIR CRUSADERS

eleven different schools. The average number of rooms for the families represented in nine schools was four; for the other two schools, five. The fathers worked, for the most part, at unskilled trades, earning about \$12.00 a week. In many cases the mother had been left alone, to become the bread winner for fatherless little ones and considered herself fortunate if there were older brothers and sisters ready to contribute their small earnings to eke out the family support.

More often than not, the rooms were dark and poorly ventilated. Some of these children were sleeping in bedrooms with no windows at all or with ventilators that opened only upon narrow courts. In one family where the father had died of tuberculosis after a ten years' illness, and where the mother had been coughing and spitting blood for five years, there were six children, four of them in the first stages of tuberculosis, with intestinal complications, probably tubercular. Of the two bedrooms in their second floor rear flat, one was fairly good, the other opened on the bathroom and had no other source of ventilation.

In John's basement home a kind landlord had sealed up all the windows and it was impossible to open any of them.

Mildred and her sister slept in an eight-by-ten bedroom which had one small window, less than one foot from the next building.

Even where there were possibilities of ventilation, it was sometimes hard to get it. Frances was one of thirteen children who lived in a little frame cottage directly back of the stockyards. Her father had suffered many years from tuberculosis,



but the visiting nurse had never been able to induce him to take the slightest precautions. He expectorated in the sink and on the floor and forbade any one to open a window. The only outside air which this family of fifteen got at night came through a broken window glass which they were too poor to replace.

Morris and his father, who had been coughing for a year, slept together in a basement bedroom. The mother was "afraid of the night air," and the one window could be opened "just a crack."

Six out of ten tuberculous is the ghastly record of the family from which Margaret and John came to the open air school. They lived over a rag-shop, and not until the place was finally condemned by the Health Department did the family remove to more sanitary surroundings.

Not all the open air school pupils came from such surroundings, but the large majority of them did, and one of the most hopeful things about the whole undertaking is the remarkable way in which these children responded to better influences. If the same response could be secured from the parents, the battle would be half won; and most of them do respond to evidences of sustained and vital interest in their children.

The nurse finds many mothers who are glad to co-operate with the purposes of the school. They will gladly put a cot on the porch roof, or change the sleeping arrangements of the family so that the tubercular child may have a bed to himself near an open window. They will get him to bed by eight o'clock, despite his pleadings for the nickel show. They will deprive themselves of proper clothing that he may be warmly clad. In such homes, poor though they may be, the task is comparatively easy; for where real destitution exists, aid may always be secured through charitable agencies which stand ready to provide extra beds, bedding, underwear, overcoats, rubbers, special diets, and the expense of securing a better apartment.

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The discouraging element is found in the parent who through ignorance, indifference, viciousness or laziness, will take no part in helping the child.

To the foreign parent who is apt to regard his son as a potential wage-earner and to resent any outside claim upon him after his fourteenth year, the open air school must be presented upon an economic basis. If he can once be con-



CANVAS TENT IN SCHOOL YARD USED BY CHICAGO TUBERCULOSIS INSTITUTE
FOR ITS SUMMER SCHOOL

vinced that the only way in which his son will ever be anything more than a burden to the family is to strengthen him against disease through his school years, he may become a strong advocate of fresh air as a curative agent.

Glancing over the family history cards of the pupils, the investigator came to one where the nationality was marked "Unknown." The teacher explained that the mother was a prostitute in the South Side levee. "No one knows who or what his father is. The mother gives the child food some-

times, and shelter almost always, but there her responsibilities cease. The truant officer found him one day and sent him to us. What he has seen and heard we cannot surmise, but of one thing I am certain: his mind is pure, even if his body is tainted."

It is hard to make much impression on such homes. In general, however, the interest in the open air school pupil leads to a knowledge of his home, and, as a rule, interest springs forth to meet interest and gratitude replies to sympathy.

Frank and Joseph lived with their mother and little sister on the third floor rear of a crowded tenement. The father deserted and went back to Bohemia just before the sister was born. The mother made an uncertain living by finishing coats, at which she seldom earned as much as three dollars a week. The children helped by pulling basting thread. When found, the woman was in the incipient stages of tuberculosis and her eyesight was failing fast. Dispensary treatment and glasses were provided and the family was pensioned for six months so that the mother could take a rest. She obeyed instructions, responded readily to treatment, and is now able to work a little, although the income still has to be supplemented. It is needless to say that in this home the attitude toward the open air school is distinctly one of co-operation.

From the good American homes which are also represented in the open air schools, come hearty expressions of gratitude for the improvement in their children. "As I told you a few days ago," runs one letter, "I do very much appreciate the work the open air school is doing. I have observed it closely for over a year and more so this term since my son has been attending it and it has done so much for him. As a result of severe sickness a few years ago he had been very nervous and easily excited. He used to come home from school under high tension and often irritable and did not do as good work

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in his studies as he was capable of doing. Since attending the open air school, there has been a great change. He comes home from school calm and good-natured and is doing much better work in his studies. He has been gaining in weight every week. We feel that the open air school is doing a great deal for him in every way and we appreciate it very much."



For we have —
Cold sprays that give us
Cheeks like the rose,
Temperatures that are normal,
This our record shows,
Appetites so hearty,
Our weight grows and grows.
We're the Elizabeth McCormick
Cold air Eskimos.
That goes.



THE ROOF OF A PUBLIC BATH PRESSED INTO SERVICE AS AN OPEN AIR SCHOOL

OPEN AIR SCHOOLS FROM THE TEACHER'S STANDPOINT



"It is in the forest school," says Dr. Henri Schoen, writing of the Charlottenburg school and its preceptress, "that one may best see how a little womanly love and attention succeed in beautifying and transforming the lives of children."

It is a pitiful thing to see a sick child whom no physician's skill can cure, but it is a far more pitiful thing to see a sick child doomed to linger through a fretful childhood, a joyless youth and an inefficient manhood when the right care at the right moment might have made him a normal, healthy, useful human being. To give the right care at the right moment is the special function of the open air school. The hopefulness of the work calls forth a fine spirit of social service in the teacher.

Sometimes it has meant real self-sacrifice. In one city, rather than have the open air school discontinued during the summer two teachers voluntarily gave their vacations to the work without pay. In several places the whole labor of preparing and serving the food has fallen upon the teacher, who has cheerfully given up her noon periods and many other hours legitimately hers with no other recompense than that of seeing the children improve.

Ordinarily, however, taking charge of an open air school means increased ease rather than increased difficulty in accomplishing desired results. The largest average attendance in any open air school from which reports could be secured

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was thirty-five, with most schools admitting only twenty-five and some only fifteen. The average number of pupils to one teacher in the Chicago public schools is forty-one; in many small town schools, it runs as high as sixty.

In a certain small town in Illinois last year, ninety-three little children were found huddled together in a so-called "kindergarten," in one room constructed to seat sixty-five.

The handbook of the Chicago Child Welfare Exhibit states that in the New York City public schools 500,000 children are in classes of more than thirty children; and 15,000 in classes of more than sixty, and adds, "A class of thirty is a good-sized class; one of sixty is monstrous."

The superintendent of schools in Pittsburgh, Pennsylvania, is quoted in a recent newspaper article as saying that in one building visited upon his arrival in Pittsburgh he was dumfounded to find, in one instance, one teacher with 136 pupils.

Granted the same kind of teacher and the same kind of pupils, it would not be fair to expect the one with sixty youngsters to accomplish as much with each individual child as could the teacher with twenty-five pupils. On the other hand, it must be borne in mind that the sixty would be in one or two grades while the twenty-five might range from first to the eighth grade.

Where eight grades are included in the school, the work has all the advantages and some of the disadvantages of the old-fashioned district school.

The necessity for adjustment to a new teacher at every promotion is eliminated. Promotions may be made when the pupil is ready and need not be dependent upon any fixed season of the year. Most important of all, the child has a chance to learn through imitation. Significant in this respect is the story of Wyburn. When the first Elizabeth McCormick Open Air School was started on the roof of the Mary Crane

Nursery, Wyburn was a mere baby of four who, with his six-year old brother, attended the day nursery. Both boys were pale and undersized, with a family history of tuberculosis. When the six-year-old was admitted to the roof school, Wyburn came too. As the teacher says: "Wyburn was too young to enter school but he was allowed to gather whatever crumbs of knowledge he was able to assimilate. He learned to read and write a little but care was taken not to overtax his strength." He spent all his afternoons asleep on the roof. Now, at six, he has completed the second grade, and his physical condition is far better than when he entered. He has learned without effort and easily, largely from hearing the recitations of the other pupils. He has not been compelled to spend a third of his time in review work, nor has his active little brain been befogged by bad air or exhausted by effort too prolonged.



Another advantage which comes from close contact with older pupils and seeing the work of the upper grades is the desire which is aroused in the mind of the pupil to complete a full school course. In the Chicago schools, sixty-one per cent of the fourteen-year-old pupils drop out as soon as they have reached the coveted "work certificate age." Investigation has shown that the pressure is not wholly economic. In many, perhaps the majority, of these cases the children might remain in school if they really wanted to.



William E. Wirt, superintendent of the schools at Gary, Indiana, recognizes this fact when he places his primary room next to the eighth grade and his fifth grade next to the high school.

"Let the youngsters see something interesting just ahead of them. Introduce them early to the laboratory and work-shop

which they may enter when they are ready—arouse their interest and their desire to learn and you will have no difficulty in holding them through the course," says Mr. Wirt.

The open air school children profit by the opportunity of absorbing from the upper grades much of the information which under other conditions they would have drilled into them. The task of instruction is proportionately easier for the teacher, and it is the testimony of the supervising principal that the quality of the work done in the ungraded rooms compares very favorably with that done in the more closely graded rooms.

The teacher of an open air school has unusual opportunities for knowing her pupils. She is not swamped at the outset by large numbers. Twenty-five individualities can be borne in mind where forty-five would leave only a blurred impression.

"Jensa can concentrate for ten minutes, and no longer," says the teacher of one open air school — "At the end of that time her attention wavers. Her writing grows unsteady and fatigue begins. But if she can have a few moments of rest from mental work, spent either in relaxation or exercise, she is ready to take up her studies again with interest and efficiency." The flexible arrangements of the open air school permit this rest, which might be demoralizing to discipline in an ordinary school, and the small number of children gives opportunity for close observation.

The program of the open air school requires the teacher to spend more time with her pupils outside of school hours than is customary. The ordinary teacher never sees her children loose from a desk or a "line" unless they have been "bad." The open air school teacher eats at the same table with her youngsters three times a day; she sees them laughing under the shower-bath, and learns to look for the weekly gain in weight as eagerly as they; she watches them as they lie asleep on their canvas cots.

Where a few towns fortunate enough to have medical inspection can hope for perhaps one cursory examination of each child a year, and the teacher's chief source of information is her own observation, the open air school children are constantly under the care of a physician who secures treatment for adenoids and bad teeth and defective vision and all the other minor ailments which hinder proper development. The close relationship between body and mind can hardly be more clearly demonstrated, and it is a relationship to which teachers, as a class, need to give special attention. With the actual physical condition of each child, then, the teacher cannot help but be familiar. The nurse keeps her equally well informed on the homes from which the pupils come — Joe ceases to be a "rather stupid little boy who sat in the third seat from the front last year and failed to pass," and becomes a timid underfed lad from an insanitary rear tenement where bad air and lack of sunshine are doing their best to choke out the ambition which brought father and mother to America to make a chance for the children and by the time various agencies have been induced to lend a hand in re-establishing this ambition under more favorable conditions, the relationship between teacher and Joe is many degrees beyond that which is usual in the school-room.

Says Miss Kate Kellogg, supervisor of the open air schools, in her report to the Chicago board of education: "When a teacher has twenty-five pupils who represent anywhere from two to seven different grades; when her recitations are interrupted by the call of a physician or nurse; when entire classes are put to rest for the day at the menacing demand of a 'rise in temperature,' she is obliged to meet the situation with cleverness and calm. How is she enabled to do this? Not alone because she is breathing the purest air this smoky city can bestow, but because her small number of pupils, her comprehensive knowledge of their physical, mental and home

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conditions, her interest in their all-around development have brought her into a close human relationship with them not often attainable under the conditions of the ordinary school-room. She is their intimate friend as well as their teacher."

The reflex action of the outdoor life on the teacher can best be stated by those who have experienced it. "Those who



BRICK MAKING AT THE CHARLOTTENBURG FOREST SCHOOL

have tried the outdoor work have been capable of more prolonged labor with far less fatigue," says the teacher of the first Boston open air school. "The work is heavier in an open air class but I feel much more able to accomplish it. After the day's work I now return home fresh and do not suffer from the usual headache and dryness of throat that follow teaching in the ordinary room" comes from New York,

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while an Elizabeth McCormick open air school teacher testifies that backache, extreme fatigue, and nervousness have been overcome by the fresh air and sunshine on the roof.

Any teacher who has known the experience of holding down a roomful of restless children on a rainy day will be interested



THE FAMOUS WALDSCHULS OF CHARLOTTENBURG

in an account of one such day on the roof when the superintendent of schools made an official call. A cold freezing rain had been drizzling for twenty-four hours, the roof was slippery, the day was gray and dark and the air full of a profound chill. The electric lights in the study tent had been turned on. It was one of those discouraging days when it is difficult not to feel blue and when the teacher learns to anticipate poor lessons, listless pupils, and an uncomfortable time. The visitors to the open air school found the discouragement of

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the day quite routed by the unaffected good spirits of the children. They heard wide-awake recitations, saw a group



AMERICA'S OPPORTUNITY

of alert and attentive children. One or two who came to scoff remained to take notes. The conference which followed set the stamp of official approval on the open air school idea.

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When these same children, a little later, refused to take a vacation at Christmas time and came back, every one of them, to ask that school be continued through the holiday week, it was only typical of the changed attitude toward things scholastic which lessens so greatly the nervous strain on the teacher. Guiding enthusiasm is much less strenuous than evoking it.

As a natural result of improving health and increasing desire to learn, there comes a great improvement in scholarship. The first year in an open air school will often see two or three grades completed where before progress was halting or had altogether ceased. The children accomplish in two thirds the regular school time, as much or more as do their fellows in the grades from which they came. Home studying is never permitted.

The attempt which was made during 1911-12 to compare open air school scholarship with the previous records of the same children in the closed window rooms did not yield as much data as had been hoped for because of the impossibility of obtaining records for many children. In the Chicago schools, scholarship is not marked until the fifth grade and the gradings from that time on through the eighth grade are preserved only on the child's report card or in the teacher's class-book. This accounts for the large number of instances where back records are not available. Of the one hundred and ninety-five children for whom complete records could be obtained, sixty-seven per cent gained in scholarship, twenty-three per cent remained the same, and seven per cent lost. Of the twenty-three per cent who remained the same,—had been in the open air schools during the one to two years preceding and had been maintaining an average of over ninety per cent.

In attendance, the records cover two hundred and four children; 63 per cent gained, 7 per cent remained the same, and 30 per cent lost. In connection with the apparently large

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number—nearly one third—whose attendance percentages were less than those of the previous year,—such records as these, which, of course, had to be placed among the losses, are significant.

1910-11	1911-12	1910-11	1911-12
97	95	99	95
97	90	100	99
94	92	100	99
98	95	99	93
100	97	97	94
100	97

It is further interesting to note that the percentage of attendance for 1911-12 ran 94, 90, 96, 95 per cent for the open air schools, and for the open window rooms 85, 90, 91, 88, 94, 89, 86 per cent. The largest falling off in attendance came in rooms where no feeding was provided.

The provision of food at school, the bath, the toothbrush, and the medical examinations furnish a basis for the study of personal hygiene in a very concrete way. It is much easier to demonstrate the value of a daily bath when you have before you twenty-five youngsters who have barely half an hour ago emerged, glowing, from a cold shower. Oral hygiene acquires new interest when individual toothbrushes are the property of the school. To record the daily thermometer and hygrometer reading may be made part of the school program. In dozens of different ways the wide-awake teacher can connect the school work with the questions of diet, sleeping arrangements, hour of retiring, proper clothing, and wholesome recreation which so vitally affect these children and yet do it in such a way that they are never rendered in the slightest degree self-conscious.

The frequent visits of open air school teachers from other cities to the Elizabeth McCormick schools led to correspondence between the pupils in Chicago with those in several other towns. English, geography and hygiene all benefit from the ensuing interest in the letters.

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The Open Air Smile and *The Open Air Courier*, the only known newspapers published on a roof, reveal the trend of thought and instruction in the schools by such items as these, taken at random:

Votes for Women!!

Three pupils, all girls, have gained over ten pounds each since September 29th. (This was May 6th.)

Sarah G. gained 11 $\frac{1}{4}$ pounds.

Martha R. gained 13 $\frac{1}{4}$ pounds.

Ethel P. gained 14 $\frac{1}{4}$ pounds.

Hurrah, Votes for Women! One failed to gain and that one was a B O Y.

Last Wednesday was a very windy day. We had a great time getting in bed and getting covered up. Mrs. W. read to us before we came up stairs, so when we lay down we went to sleep at once. Everybody slept. When we did get up the wind was still blowing and every cot was covered with snow. All the children were surprised and said "Oh" and we were just as warm as "toast." When we told our mothers we had hard work to make them believe that we were sure enough asleep.

Both news-sheets are written by hand and appear bi-weekly. The infinite pains taken to make the penmanship clear, and to keep the pages free from blots have done more for the hand-writing of the young compositors than months of copy-books, and they are learning composition and rhetoric without knowing it.

The schools have not been in operation long enough to warrant judgment as whether the children discharged are permanently cured. We know, however, that some of them have for two years shown no evidence of a relapse into their former condition. An examination of former pupils from the Charlottenburg school two years after they were discharged gave evidence to the same effect.

However, if a pupil is discharged to go to work he ought to have advice and assistance in securing employment. Last year the office of the Elizabeth McCormick Memorial Fund was notified that Marie, a promising little pupil in an open window room, had that day attained her fourteenth birthday and was compelled to leave school and go to work. A visit

to Marie's home disclosed a Belgian family neat and self-supporting, but pressed by poverty almost to distraction. The father was a day laborer who had indulged in the costly luxury of too many children and was suffering from the results. The income, however wisely spent, was plainly inadequate. Marie was the oldest child, was a very attractive little girl, not particularly bright, but attentive and studious and eager to stay in the fresh air which the doctor had pronounced her only hope of health. Yet she was bravely planning to go to work in a factory because there was the only opening in unskilled labor which was familiar to her. Through the help of the United Charities a chance was given her to take a position at the Mary Crane Nursery, where she has been for the last year in training as a nursery maid. The work was made especially light for her. She shared the food and rest periods of the open air school children on the roof until she was strong enough to do without, and she was paid \$3.00 a week while learning her trade. To-day the physician pronounces her absolutely free from the danger of tuberculosis which threatened her, and she is in possession of a training in the care of children which will always assure her of steady work under pleasant surroundings with pay higher than she could hope for in any factory. There is also the possibility that later she can take the regular nurse's training if she continues to enjoy the work. Marie has been given health and a future. That she will suffer no relapse we feel reasonably assured.

We do know, however, that those who are forced out of the open window rooms by promotion to higher grades for which there is no open air provision, show decided falling off in weight and general condition. But these children are forced out before they are ready to go. If it seems impossible to the boards of education to have an ungraded room in each building which will take care of the full eight grades, there should certainly be two rooms with four grades in each so that a

pupil need not be compelled to automatically deprive himself of the benefits of the fresh air by doing so well in his studies that he has to be promoted.

The fact that over two hundred fresh air classes have been established in the United States during the past few years shows that the open air idea is advancing in favor with educational authorities. The reason is not far to seek. Improvement in health means improvement in ability to learn. But it means more than this. One superintendent on his way back to Pennsylvania from the meeting of the Department of Superintendence at St. Louis in 1911, said that to him the most inspiring part of the whole meeting was the visit to the St. Louis open air school. The contagious good spirits of the children and the good fellowship between them and the teacher he considered truly remarkable.

Sir John Gorst remarks the same thing of the Forest School, when he says: "What struck me most was the air of extraordinary joyfulness which pervaded the whole establishment from the medical superintendent down to the smallest and poorest child, and I marveled at the administrative ability which had at so small cost provided such a great portion of health and happiness to brighten at least the beginning of life to these poor children."

The chance to do service like this appeals to every teacher.



INTERIOR. ELIZABETH MCCORMICK OPEN AIR SCHOOL NUMBER FOUR

OPEN AIR SCHOOLS FROM THE PHYSICIAN'S STANDPOINT



The medical staff of the Elizabeth McCormick Open Air Schools, Dr. James A. Britton, Dr. O. W. McMichael, Dr. George B. Young, Mr. Frank E. Wing, Dr. W. A. Evans, Dr. John A. Robison, Dr. Henry B. Favill, Dr. Theodore B. Sachs, Dr. A. C. Kleutgen, Dr. B. I. Wyatt, Dr. D. B. McEachern and Dr. H. O. Jones, met regularly every two weeks during the school year for discussions and reports with the definite idea of establishing certain conclusions as to the management of open air schools. After careful and detailed consideration, they stood agreed upon the following points:

NEED OF OPEN AIR SCHOOLS

There are in every large city large numbers of physically sub-normal school children. Experiments in various cities have shown that a large percentage of such children are greatly benefited physically and mentally when placed in an open air school or an open window room.

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DEFINITION OF TERMS

The open air school is in reality only a shelter against inclement weather, so constructed that the air is actually that of the outside.

The open window room is an attempt to get the same conditions as are possible in an open air school by using a room in a regular school building and simply keeping the windows constantly open.

CHILDREN TO BE ADMITTED—TO BE EXCLUDED

No child shall be admitted without accurate knowledge of his physical condition.

The open air school should be reserved for the tuberculous child, the open window room for other types of physical sub-normality.

Children with severe organic disease, viz., heart, kidney, and any communicable disease, open tuberculosis included, should be excluded.

Note

Positive diagnosis of open tuberculosis can only be made by finding bacillus in the sputum or discharges, but persistent cough with expectoration, persistent fever of 100 or over, moist rales or an open sinus that cannot be protected entirely by dressings should be considered sufficient cause for exclusion.

REQUIREMENTS FOR ADMISSION

Child must bring written consent of parent to admission to open air school, also written consent for a complete physical examination, same to be conducted by physician, always in presence of nurse, teacher, or parent.

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EXAMINATIONS AND MEDICAL SUPERVISION

Pupils shall be given complete physical examinations by physicians on admission and discharge and at other times for any special indication.

Nurse shall inspect daily, recording temperature, pulse and respiration. Weight shall be taken once a week. Child should be stripped.

The standard physical examination shall include height, weight, temperature, pulse, general development and nutrition, condition of skin and glands, condition of eyes, ears, nose, teeth and throat, chest formation, condition of heart and lungs. (Children shall be sufficiently stripped to enable accurate diagnosis.)

ESSENTIALS OF TREATMENT

Constant free circulation of outside air.

Children and teacher must be kept warm and comfortable. Sufficient clothing must be provided. In extreme weather windows may have to be closed, but room should be flushed as often as weather will permit.

Rest at least one hour in middle of day. Visitors shall be excluded during rest period. Any child running a temperature of 100 or over shall be put on rest.

Sufficient food, supplemented at home or at school.

Reduction of academic work done in special cases.

TEACHER

Since the work of the open air school teachers is of great importance to the child and the educational system, the salary should be made that of a teacher in a sub-normal room, "which would carry with it increased rather than decreased pay.

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SCHEDULE OF STUDIES

No home studying should be permitted. There should be reduction of academic work in some cases. The school work required of children should tend more and more to be governed by the advice of physicians who are making such work a specialty.

Conditions vary so much in the different schools that it is impossible at present to draw up an absolute schedule to work towards a standardization of the work.

RECORDS

There should be a card especially designed for recording physical condition and progress.

A special card for obtaining the consent of parent to admission to open air and for complete physical examination shall be issued by the department of health of Chicago. This shall be kept on file with the other physical records of the child.

On other points of medical management, the arrangements differed at the various schools. At three of the open air schools, a cold shower bath was given each child daily, followed by a brisk rub with a turkish towel. At the fourth roof school, the Graham, there were no facilities for bathing. None of the open window room children received shower baths, but where the school building permitted, they were given warm, cleansing baths once a week.

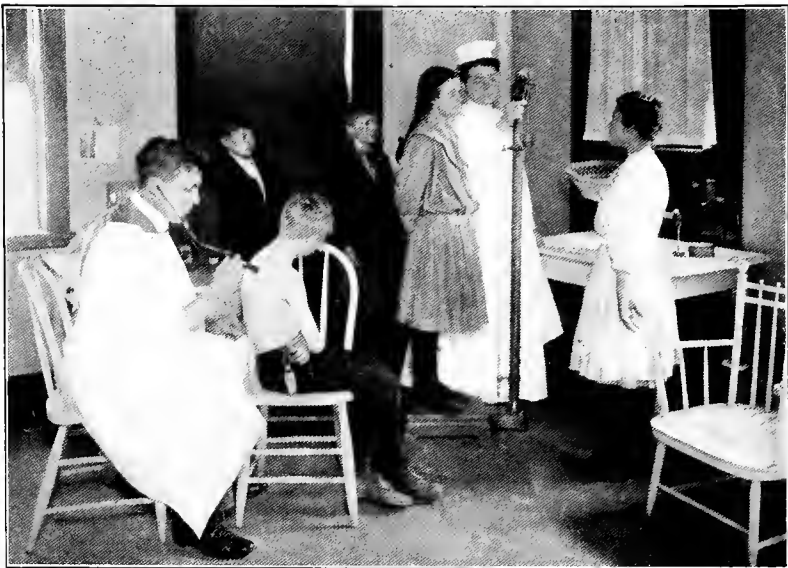
It was impossible to reach an agreement as to whether the value of the daily shower bath at school offset the extra expense and the time which is involved. On motion of the staff, it was decided to consult Dr. S. Baruch of New York City, on this question. His letter in reply contained so

many valuable suggestions that, with his permission, portions of it are here reproduced:

"It gives me pleasure to be of service to your excellent society and to say that your idea of the best bath for school children is entirely in accord with my own. Your method combines the refreshing effect of the cool or cold water upon the nervous system with the cleansing action of the warm bath. In a lecture before the Teachers College of Columbia University last year, the former was emphasized because it is usually neglected. Cleanliness of the person is necessary for physiological and æsthetic reasons, but the godliness it fosters is paramount. This may seem singular, coming from one who has made bathing the masses a life mission, but I agree with School Superintendent Maxwell who says: 'Baths before books,' which is quite heretic. In my lectures the truth of the dictum was demonstrated by examples from ancient and modern history, that the spiritual effect of the bath is superior to its physical action.

"It would not seem difficult for the average school having a steam-heating plant and a fair water pressure to supply baths for all pupils. Twenty-two years ago I devised a wholesale rain bath of the warm and cold water for the New York Juvenile Asylum, of which I was physician, which economizes time, trouble and money. For refreshing effect the cold bath should be brief and have good pressure, not less than fifteen pounds, the more, the greater the stimulating action. The duration should be as brief as you have it, but may be advantageously prolonged a minute or less every day, but stopped short of producing chilliness. The longer the cool rain bath the more enduring its effect in producing refreshment and alertness of mind.

"This rain bath is also the most useful for cleansing purposes because the warm water and the soap are aided by the friction of the water under pressure and there is no danger of contagion



THE MONTHLY EXAMINATION BY THE PHYSICIAN IN CHARGE



TEMPERATURE AND PULSE WERE RECORDED TWICE DAILY

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and no loss of time in cleansing large numbers. The friction also neutralizes any possible relaxing effect of the warm water."

The experience in the Chicago schools has been that while the children, as a usual thing, object to the bath at first, in a very few days they learn to like it and, strange as it may seem, object to going without it. Although the order was given at the opening of the first school in 1909 to discontinue baths for any child who did not react properly, no such child has yet appeared.

The length of the rest period and its position in the daily schedule had also to be adapted to the conditions in the various schools. In one roof school, the twenty-five pupils rested at the same time in the afternoon, with the teacher in charge. In the two adjacent schools at the Mary Crane Nursery and the Hull House Boys' Club, each school was divided into sections, one section resting while the other recited and then reversing the process. The delegations from the two schools, about twenty-five in all, rested under the same shelter tent, in charge of the nurse. At the Franklin open window rooms there were two rest periods, one before and one after the noon recess, with all the room resting at the same time and the teacher in charge. At the other schools, where there were several grades in one room, the matron usually had charge of two rest periods and rest and recitation went on alternately.

Such a period of quiet relaxation in the fresh air, away from the noise of the street, proved of great value to the overstrung nerves of these city children who came for the most part from crowded homes where only one fifth of them slept alone. A vivid picture of the conditions under which some of the little pupils had to rest at home is found in a nurse's record: "Family living in three rear rooms on second floor. There is a suspender factory on the first floor and a carpenter shop on the third. The small yard is littered with paper and shavings.

Toilets are in small sheds in yard. Bed-room, 11 by 14 feet, contains two beds, five occupants. Sam sleeps with older brother. Room has no outside window. The only light and air come from sky-light about 1½ by 7 feet, which the brothers say they have to keep closed to keep out the bad air and the noise. Upstairs in the front, the family have ten children and several boarders, and in the rear there are nine children. On the first floor in the front there are fourteen children and the factory is in the rear. The yard and halls are full of rats. Sam has a good appetite but not much to eat. For breakfast he has dry bread and coffee, and coffee and soup with bread for supper. He goes to bed at eight and gets up at six."

At Elizabeth McCormick Open Air School Number 3, where especial attention was paid to the duration of actual sleep, the period ran from two to eighty-one minutes, with the average about forty-five minutes. A child lying quietly, with eyes closed, was assumed to be asleep. Mothers reported that far from being more restless and wideawake at night, the children slept better and were more ready to go to bed at eight, the hour which the school physician set as bed-time. Persistent staying out late at night was considered cause for dismissal from school.

Local conditions made it impossible to weigh the children stripped in more than three roof schools.

The medical examinations which each pupil had to take before admission to the open air disclosed many physical ailments which had undoubtedly contributed their share to putting the children into the class of suspected tuberculosis. In one school the children had an average of five decayed teeth, and all had to go to the dental chair for extractions and filling. In the same school of twenty-five pupils, twelve had adenoids and tonsils removed.

The room which served for the dentists was also used for

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a nose and throat clinic one day a week. Seventy-five operations have been performed during the eighteen months of the clinic. In May, 1911, a dental clinic was opened at the school. From May to June, 1911, 30 children received treatment, and from September, 1911, to June, 1912, over 300 children. The attendance was most generously and efficiently supplied by the North Side Branch of the Chicago Dental Society.

Under this medical régime ninety per cent of the open air pupils showed positive improvement. Of these fifteen per cent were sufficiently improved to be discharged to the regular school. The others remain in the open air, under observation. Of the eight per cent who did not show improvement, two per cent were so seriously ill as to be admitted to sanatoria. In a few cases, where the mother refused proper co-operation at home, the child was dismissed, and in one or two others he dropped out of his own accord before he showed any real gains.

To the work of physicians and nurses who gave many hours of over-time service freely to the children, the open air schools of Chicago and every other city owe a big debt of gratitude.





DINNER TIME

EXPERIMENTS IN FEEDING



According to the estimate of John Spargo, fully 2,000,000 children of school age in the United States are badly underfed. The mere statement of the possibility that there might be in this country so large a number of hungry boys and girls aroused great interest and various

schemes were at once proposed to supply them with food. For twenty years, England has been wrestling with the same problem, but the arguments for and against feeding at school, provided by the State, are still contested as bitterly as ever.

This controversy also involves the food question in the open air schools. In Germany, children whose parents can afford it are charged a nominal sum for their attendance at the open air school. Each father must fill out a card which gives his trade, income, number in family and other facts which affect his ability to pay for his child's schooling. Upon this and other information gathered in doubtful cases, is based the decision. For those who are considered really unable to pay, the municipality provides. Similar provisions are made in England. In the United States, boards of education, with very few exceptions, will furnish the school books, desks, black-boards and other school equipment, and will hire a teacher at the regular rate. In some cities, the board has also

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provided the open air equipment, but so far no school board in America has provided free food for school children. The result has been that almost everywhere some private agency has undertaken to provide food for the open air pupils.

During the first year of the Elizabeth McCormick open air school, it was decided to charge those children, whose parents were able to pay, ten cents a day to cover the cost of food. A very short trial, however, demonstrated the fact that the rigid enforcement of such a rule would eliminate from the schools the very children who most needed the care. If the parents who were able to pay for the child's food were unwilling to do so, there was no means of compelling payment, since the open air schools were part of the regular public school system and the parents could easily have the child transferred. To the majority of families represented in the Elizabeth McCormick schools, even ten cents a day was absolutely prohibitive. Most of them were already receiving assistance from the charitable agencies of the city.

But open air schools with feeding ought not to be limited to the poorer sections of the community. A recent development in Chicago suggests one way of extending the work. Through the efforts of the principal an open window room is about to be started in the Armstrong school. The parents of twenty children who attend that school have offered to pay all expenses of food, extra equipment and medical supervision for the room. The teacher and school equipment will be provided by the board of education.

The question of feeding has in some places doubtless prevented or delayed the introduction of open air schools. Food is the largest single item of expense. It ought to be appetizingly prepared and daintily served if it is to accomplish the maximum amount of good. Service costs money and requires room. While the initial expense of equipment, once incurred, is over, the expense of food is constant and is increasing as food

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values rise. Furthermore, some parents object to having their children fed at school.

It is the aim of the Elizabeth McCormick Fund, in its open air work, to develop the schools to that point of simple efficiency where the board of education, or some other public agency, may fairly be asked to take over the whole responsibility of operation. If this one question of feeding could be solved, matters would be greatly simplified. Moreover, since the beginning of the movement people have questioned whether it was really the fresh air or the food which caused the improvement so quickly evident in the children.

During 1911-12, two experiments, one in New York and one in Chicago, have been carried on to get evidence on this point.

In New York, the Committee on the Prevention of Tuberculosis of the Charity Organization Society provides food for eight fresh air classes.

1. The committee furnishes a hot lunch at noon and in addition, milk and crackers both morning and afternoon. Two such classes.

2. Lunch only, but no milk, morning or afternoon. Two such classes.

3. Milk only, both morning and afternoon, the children being allowed to bring their lunch or go home after it. Two such classes.

4. No feeding at all in the class, the children being allowed to bring their lunch or go home for it. Only one such class.

5. The Committee is also feeding the children in a regular class of normal children in normal condition at one of the schools, in order to make a comparative test with a class fed in a similar manner but taught in the fresh air class room. Only one such class.

The results of this experiment will probably be available by the time this book is published. Copies of the report may

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be secured by addressing the Committee on the Prevention of Tuberculosis of the Charity Organization Society, 105 E. 22d Street, New York City.

"It is estimated," says the bulletin of the National Association for the Study and Prevention of Tuberculosis, from which the above description was also taken, "that where the full lunch and also milk, both morning and afternoon, are provided, it costs 17 cents per day per child; for lunch only, about 10 cents per day per child; and milk only, twice a day, about 5 cents a day per child."

The Elizabeth McCormick Memorial Fund planned the feeding for the various schools under its charge as follows:

Elizabeth McCormick Open Air Schools 1 and 2. Lunch of milk or cocoa, bread and butter or bread and jelly, twice a day; soup and bread, with an occasional dessert, at noon. Average attendance, 50.* Average days present, 110. Cost of food per day per child, 11 cents. In School No. 1 the record covers 31 children; 30 children gained an average of 4.31 pounds, 1 child remained the same, none lost. In School No. 2 the record covers 28 children; 24 children gained an average of 5.225 pounds, 4 lost an average of 1.81 pounds.

These two schools were on adjoining roofs connected by a bridge. The children shared the same dining-room, bathroom and locker-room. There were three attendants: the matron, whose duty it was to give baths, to see that the children were properly clothed, to plan the meals, and to carry out the physician's instructions as to the physical care of the children; the assistant matron, who attended to the washing and cleaning and helped the matron; and a young girl who assisted with the preparation and serving of the meals. The soup for dinner

*The apparent discrepancy between the average attendance, 50, and the number of children covered by the record, 59, is accounted for by the fact that the record included all children who had been in attendance longer than one school month. Some were promoted in January and others took their places, etc. The same explanation applies to all the other schools.

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was bought at cost from the Mary Crane Nursery. The attending physician examined all applicants for admission, planned the daily routine, and visited the school daily to inspect the pupils. The Elizabeth McCormick Memorial Fund paid the salaries for physician, matron, assistant, and girl. The daily per capita cost for this service was 21 cents.

Elizabeth McCormick Open Air School No. 3. Lunch of milk or cocoa, bread and butter or bread and jelly twice daily. Course dinner, of meat, vegetable and dessert at noon. Average attendance, 25. Average days present, 165. Cost of food per day, 14 cents. Record covers 25 children; 22 children gained an average of 8.6 pounds, 1 remained the same, 2 lost; 1, who was discharged to a sanitarium, 10.5 pounds, and another, 2.75 pounds.

This school was on the roof of a municipal bath building. The shower baths on the first floor, a five-room flat on the second floor and the roof were placed at the disposal of the foundation by the board of health. There were three attendants; matron, assistant matron, and cook. All the food was prepared at the school. The salaries of attending physician, matron, assistant matron, and cook, whose duties were like those at Schools 1 and 2, as well as a slight additional fee for janitor service, were paid by the Elizabeth McCormick Memorial Fund. Per capita cost, daily, for service, 30 cents.

Elizabeth McCormick Open Air School No. 4. Lunch of soup or stew, milk or cocoa, bread, etc., twice daily. Average attendance, 30. Average days present, 97. Cost of food per child per day, 5.5 cents. Record covers 29 children; 26 gained an average of 3.875 pounds, 3 lost an average of 4.2 pounds.

School No. 4 was on the roof of the boiler house of the Graham Public School. The matron prepared and served two lunches for children of open air and open window rooms, saw that the children were properly clothed, and took charge of the rest period. Her assistant helped in the preparation of

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the lunches and the general care of the lunch room. The school physician was in attendance. No baths were given. The Elizabeth McCormick Fund paid the salaries of matron and assistant, but did not pay the physician who was furnished by the board of health and the value of whose services are not included in this computation. The same statement holds true of all the open window rooms except the Franklin. Daily per capita cost of service, 5 cents.

Graham Open Window Room. Same lunches as Graham Open Air School, twice daily. Average attendance, 30. Average days present, 127. Daily per capita cost of food, 5 cents. Record covers 32 children; 30 gained an average of 2.62 pounds, 1 remained the same, 1 lost $\frac{1}{4}$ pound.

The service for this room and for the open air school at the Graham was taken care of by the two attendants whose duties were described under the Elizabeth McCormick Open Air School Number 4. The school physician was in attendance. The Elizabeth McCormick Fund paid the salaries of matron and assistant. Daily per capita cost for service, 5 cents.

Moseley Open Window Room. Two lunches daily, same as above. Average attendance, 30. Average days present, 87. Cost of food per child per day, 6 cents. Record covers 42 children; 34 gained an average of 3.78 pounds, 3 remained the same, 5 lost an average of 1.25 pounds.

At the Moseley School, one matron was able to prepare and serve the lunches, clear up afterward, and watch the rest period. The school physician was in attendance. The Elizabeth McCormick Fund paid the matron's salary. Daily per capita cost for service, 5 cents.

Hamline Open Window Room. Two lunches daily, same as above. Average attendance, 25. Average days present, 96. Cost of food, 5.5 cents. Record covers 38 children; 35 gained an average of 3.85 pounds, 2 remained the same, 1 lost 2 pounds.

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Here, one matron prepared and served lunches, kept lunch room in order and took charge of rest period. The school physician was in attendance. The Elizabeth McCormick Fund paid the matron's salary. Daily per capita cost for service, 4 cents.

Franklin Open Window Rooms 1 and 2. Two lunches daily, same as above. Average attendance, 50 children. Average days present, 126. Per capita cost of food, 6 cents. In Room No. 1, record covers 30 children; 28 gained an average of 5.9 pounds, 1 remained the same, 1 lost 2.93 pounds. In Room No. 2 the record covers 30 children; 28 gained an average of 4.75 pounds, 2 lost an average of 1.75 pounds.

The matron here planned and served the lunches, visited the homes of the pupils, took the temperatures in the afternoon. Her assistant helped in preparing and serving the meals. The attending physician was employed by the Elizabeth McCormick Fund. He examined all applicants for admission to the rooms, planned medical routine, and inspected daily. The salaries of matron, assistant, and physician were paid by the McCormick foundation. Daily per capita cost of service, 10 cents.

Franklin Open Window Room Number 3. Test room. Open windows, rest on cot, medical and nursing attendance, but no food. Average days present, 44. Record covers 20 children; 5 gained an average of 1.6 pounds, 15 lost an average of 2.5 pounds.

Here the only cost was for the medical and nursing care. The same physician and matron who had charge of the other rooms at the Franklin served here. The Elizabeth McCormick Fund paid both salaries. The daily per capita cost for service was 7 cents.

Foster Open Window Room. Here no feeding was provided by the Elizabeth McCormick Fund, since a penny lunch room was in operation in the school and it was planned to see

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whether this form of feeding would meet the need. But the principal of the school was fortunate enough to be offered milk for the two lunches daily, free of charge. The children, therefore, received the unheated milk and crackers twice and could go to the penny lunch room at noon if they desired. There was no cost, either for food or service. Record covers 33 children. Average days present, 47. 16 gained an average of 1.6 pounds, 1 remained the same, 16 lost an average of 2.2 pounds.

This year the Elizabeth McCormick Memorial Fund is paying for the medical service in all the open air and open window rooms. We have also put the Foster School, where the feeding was through the penny lunch and the Franklin open window room, where no feeding at all was provided, on the same basis as the other open window rooms with two lunches daily.

At one school, the pupils are weighed, stripped, every Friday afternoon and every Monday morning. Noticing the regular loss of weight over the week-end vacation, which ran from a few ounces to one or two pounds, the physician in charge started a system of records of home-feeding, to be kept by the children themselves, as part of their home work. These reports were frequently verified by the nurse on her visit to the home. Reports evidently incorrect were thrown out, and sources of error avoided as far as possible. The records throw light on home conditions which are responsible for the lack of efficiency which many children show in school.

Says the report of the Tuberculosis Institute on the summer schools: "It is the almost universal experience of the visiting nurse that the children from the type of home represented in the outdoor school as conducted in Chicago are fed on a limited diet of bread, potatoes, fried meats and cheap delicatessen products. Certain nationalities have a leaning toward fried fish, macaroni, canned tomatoes and hard



OPEN AIR SCHOOL AT KENOSHA, WISCONSIN



INTERIOR OF THE KENOSHA SCHOOL — THE EQUIPMENT OF THIS SCHOOL WAS PRESENTED TO KENOSHA BY THE WISCONSIN ANTI-TUBERCULOSIS ASSOCIATION AS A PRIZE FOR SELLING THE LARGEST NUMBER OF RED CROSS CHRISTMAS SEALS.

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boiled eggs, but almost invariably they refuse cooked cereals, especially rice, vegetables other than those mentioned, soup, unless of the coarsest variety, and numerous dishes common in the average American home. Classes in domestic science and food values, as well as in deep breathing and air values, would do much to help this state of affairs, for malnutrition is frequently the forerunner of tuberculosis in children."

Edward C. is one of the five small children for whom Mrs. C. has done her best to provide since her husband's death. He was in the open window room less than one month, in which time he gained $3\frac{1}{2}$ pounds. His records of his breakfasts at home follow:

May 28, Coffee, bread, butter.	June 7, Tea, bread.
" 29, Coffee.	" 10, Tea, bread.
" 31, Tea, bread, cake.	" 11, Tea, bread.
June 3, Tea, cake.	" 13, Coffee.
" 4, Tea, bread.	" 14, Coffee, tea.
" 5, Tea, bread.	" 17, Tea, bread, cake
" 6, Tea, bread.	" 19, Tea.

On June 13th, he records with evident pride:

DINNER — 9 slices sandwiches	2 peases cake
1 ice cream cone	5 bananas;

and since Clyde M., from the same school, records for the same day:

DINNER — 3 sandwiches	ice-cream cone
$2\frac{1}{2}$ bananas	pop corn,
crackerjack	

it is evident that a small orgy took place.

Edward's diagnosis on admission reads: "Malnutrition."

One little colored girl, who reports almost invariably no dinner at noon, is found on further investigation to be eating very hearty breakfasts, eggs, toast, corn-flakes, etc., usually meat at night, and soup and milk at school. Here, apparently, the lunches at school did away with the necessity of going home at noon.

Another child came 29 mornings out of 143 with no breakfast, although the record of the other home meals showed a plentiful supply of good food available.

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Molly F., an eight-year-old Russian Jewess, was diagnosed as anæmic and nervous. Although she was in the open window room 121 days, her weight was the same on discharge as on admission, 56 pounds. Her percentage of scholarship this year was 80, her percentage of attendance 67. Molly's father kept a little shop down on South State Street, and the family of seven occupied three beds in one chamber of the four-room apartment. Her breakfast record from February to June follows:

February	1, 2 doughnuts, 1 glass milk, 1 slice bread.	March	28, Cake, sardines, cocoa.
"	2, 3 cakes, 1 cup tea.	"	29, 2 cakes, 1 cup tea.
"	5, Ice-cream, 1 cup tea, cakes.	April	4, 2 macaroons, 1 cup tea.
"	6, Tea, 4 cakes, cream	"	10, 2 eggs, 1 cup tea.
"	7, Doughnuts, tea.	"	11, 1 cake, 1 cup tea.
"	8, 3 cakes, 2 cups milk.	"	12, 2 cakes.
"	9, Sausage, 1 cake, 2 glasses milk.	"	15, None.
"	11, 2 glasses milk, 3 cakes	"	17, 1 cake, 1 cup tea.
"	14, Cake, milk.	"	18, Milk, fish.
"	15, Cake, milk.	"	19, 1 cake.
"	16, Doughnuts, milk, fish.	"	22, 1 cake, 1 cup tea.
"	19, Pie, milk, apples.	"	23, 1 cake.
"	23, Apples, tea, 2 cakes	"	24, 1 cake.
"	24, Tea, meat, bread, apples.	"	25, Pie, tea.
"	26, Apples, cake, milk.	"	26, 2 cakes.
"	27, Bread, fish, milk, cake.	May	6, 1 cake, milk.
"	28, Cake, milk.	"	7, 2 fishes, 1 cake.
"	29, Cake, milk, fish.	"	8, 1 cake, milk.
March	2, 2 cakes, cocoa.	"	9, 1 cake, milk.
"	5, 1 cake, fish, tea.	"	10, 1 cake, coffee.
"	6, 3 cakes, tea.	"	13, 1 glass milk.
"	7, Cakes, 2 glasses milk	"	14, 1 cake.
"	8, Tea.	"	15, 1 cake, 1 cup coffee.
"	9, Tea, cake.	"	16, 1 cake, tea.
"	11, Cake, hot milk.	"	17, 1 cake.
"	12, 2 cakes, 1 glass milk.	"	20, None.
"	13, 2 cakes, 1 glass milk.	"	21, 1 cake.
"	14, 2 cakes, 1 glass milk.	"	24, 1 cake, 1 glass milk.
"	18, Cake, milk.	"	25, 2 cakes, tea.
"	19, Cake, milk.	"	28, 1 cake, 2 glasses milk.
"	20, 2 doughnuts, 1 glass milk.	"	29, None.
"	21, 1 cake, 2 glasses milk.	June	3, None.
"	22, 1 cake.	"	4, 1 cake.
"	25, 1 cake, 1 cup tea.	"	5, 1 cake.
"	26, None.	"	6, None.
"	27, 2 doughnuts, 1 plate sal- mon, 1 cup cocoa.	"	7, 1 cake, 1 glass milk.
		"	10, None.
		"	11, 2 cakes, 1 cup tea.
		"	13, 1 cake, 1 cup tea.
		"	17, 1 cake, 1 cup tea.

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On the basis of similar records for five months, one physician estimates the average number of calories taken at home by the children in his section of the city, which includes "Little Italy," as about 450 calories. The menus at the open air school are planned to give them in addition about 1,500 calories. The caloric values are worked out daily by the matron in charge. Sample menus follow:

MENUS FOR SEPTEMBER, 1911

September 5—

VEGETABLE SOUP (TOMATOES)
BROWNED BEEF PLAIN POTATOES
TOMATOES (STEWED)
FARINA PUDDING

September 6—

VEGETABLE SOUP (BARLEY)
BEEF LOAF BAKED POTATOES
BEETS
PRUNES

September 7—

VEGETABLE SOUP
LAMB STEW BAKED POTATOES
STRING BEANS RADISHES
CHOCOLATE PUDDING

September 8—

CREAMED LIMA BEAN SOUP
EGGS SCALLOPED POTATOES
CREAMED ONIONS
PEACHES

September 11—

VEGETABLE SOUP (RICE)
BEEF STEW BAKED POTATOES
PEAS WITH CARROTS
CONCORD GRAPES

September 12—

VEGETABLE SOUP (PEAS)
CHOPPED BEEF PLAIN POTATOES
LETTUCE
TAPIOCA PUDDING

September 13—

VEGETABLE SOUP (BARLEY)
SPARE RIBS MASHED POTATOES
SAUER KRAUT
RADISHES
RICE PUDDING

September 14—

VEGETABLE SOUP
ROUND STEAK BAKED POTATOES
SLICED TOMATOES
FARINA PUDDING

September 15—

POTATO SOUP (CREAMED)
EGG SCALLOPED POTATOES
BEETS GRAPES

September 18—

VEGETABLE SOUP
BROWNED BEEF BAKED POTATOES
WAX BEANS
CHOCOLATE PUDDING

September 19—

VEGETABLE SOUP (TOMATOES)
BEEF LOAF BAKED POTATOES
CAULIFLOWER
GRAPES

September 20—

VEGETABLE SOUP (RICE)
LAMB STEW PLAIN POTATOES
PEAS AND CARROTS
PRUNES

September 21—

VEGETABLE SOUP (BARLEY)
CHOPPED BEEF PLAIN POTATOES
PARSNIPS
RICE PUDDING

September 22—

TOMATO SOUP (CREAMED)
FRIED POTATOES
SPAGHETTI (WITH TOMATO SAUCE)
FARINA PUDDING

September 25—

VEGETABLE SOUP (TOMATO)
BROWNED BEEF BAKED POTATO
CORN
CHOCOLATE PUDDING

September 26—

VEGETABLE SOUP (RICE)
SALT PORK BAKED POTATOES
BEETS
PRUNES

September 27—

VEGETABLE SOUP (BARLEY)
BEEF LOAF PLAIN POTATOES
PEAS AND CARROTS
GRAPES

September 28—

IRISH STEW
RICE PUDDING

September 29—

TOMATO SOUP (CREAMED)
SPAGHETTI
PRUNES

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The lunch hours and noon meal ought to be periods of complete relaxation, with the atmosphere of the school room entirely absent. Many of the children come from homes where the family never all sit down together for a well-ordered meal. They have grown up in the habit of snatching a baker's roll from the kitchen table, pouring a cup of strong coffee from the perpetually brewing coffee pot and eating their breakfast on the doorstep. To bring children handicapped by such lack of training into contact with those whose mothers have taught them carefully, even if under the limitations of poverty, is to give the untaught a big chance to profit by what they see.

Dr. Kraft, in his excellent report on the Charlottenburg Waldschule, comments on the training which the children give each other. Under the skillful guidance of a wise teacher, the imitative instinct can be made to work all for the good. There is little likelihood of a boy deliberately copying bad table manners when the general attitude of his mates is so decidedly against it. But the emphasis on table etiquette must never destroy the freedom of the meal. A simple form of grace, jokes and stories, pleasant, unsupervised conversation, songs about the piano afterward, are not hard to have, and they give the pupil a more natural chance for self-expression than he can get during the school period.

All children like "to help," and in rotation different groups of them set the table, serve and clear away the things. They are taught the proper position of knife and fork. They learn to use napkins. Tooth brushes are given them and the regular tooth brush drill after dinner together with the insistence upon clean faces and hands at a table where it is fashionable to be clean combine to make the food more enjoyable.

The effect upon the children is shown by the often quoted remark of a boy in the summer school: "Good eats an' rest make a feller feel good and he ain't a-goin' to do bad things."



OPEN AIR—OPEN MINDS

THE DEVELOPMENT OF OPEN AIR SCHOOL WORK IN CHICAGO



Chicago was the sixth city in the United States and the first in the west to establish open air schools for physically subnormal children. Germany led the way in 1904 with the now famous Waldschule at Charlottenburg. England and France followed at Bostall Wood and Lyons. In this country, Providence, New York City, Boston, Pittsburgh and Cambridge, Massachusetts, had conducted schools in the open for periods ranging from three to eighteen months. An old school house, an unused ferry-boat, the roof of a park refectory, a canvas tent, a hospital balcony and an old dwelling-house, respectively, were the expedients pressed into service as a sort of manger makeshift

for this new enterprise.

In Chicago, as elsewhere in this country, private philanthropy financed the initial experiments. The first outdoor school was made possible through the joint co-operation of the board of education and the Chicago Tuberculosis Institute. The part taken by the Board of Education was largely the result of the active interest of Dr. Alfred Kohn, who, prior to the arrangement with the Tuberculosis Institute, had presented to the board of education a plan for a similar school for debilitated children, not necessarily tuberculous, to be modeled somewhat after the Charlottenburg school. Pro-

vision for feeding of these children, however, proved a stumbling block, and it became necessary to give up the school as originally planned. Prior to the announcement of these plans, the Chicago Tuberculosis Institute, which had advocated an outdoor school as one of its possible summer activities, was in the field for a location for some form of outdoor provision for a group of tuberculous children.

The plan of Dr. Kohn seemed to present the desired opportunity, and the Tuberculosis Institute offered to co-operate with the board of education in the maintenance of such a school. The offer was accepted and the school was opened on the grounds of the Harvard School, Seventy-fifth Street and Vincennes Road, on Tuesday morning, August 3, 1909.

The school building, grounds, equipment and teaching staff were furnished by the school board, while the selection of the children, the expense of food, transportation, cook, nurse and medical service were assumed by the Tuberculosis Institute. A large shelter tent and thirty reclining chairs were secured for outdoor use; and range, cooking utensils, dishes, knives, forks and spoons, kitchen and dining tables and ice-box were installed in the basement of the school building. The large assembly hall, piano, toilets and shower baths were also placed at the disposal of the pupils. Mr. William E. Watt, principal of the Graham school, was secured as principal of the outdoor school. He was assisted by two teachers, also supplied by the board of education.

The Tuberculosis Institute placed one of its nurses on half-time attendance at the school to watch the temperatures, weight, pulse and general condition of the pupils. Careful follow-up work into the homes of the children made it possible to secure the co-operation of the parents to the fullest degree.

Of the thirty children chosen for the experiment, seventeen were first-stage cases of tuberculosis, two had tubercular glands, and eleven were pronounced pre-tubercular. Sixteen

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had been and two were still directly exposed to tuberculosis in their homes. In the case of the other fourteen there was no evidence of direct exposure. None had passed to the "open" or infectious stage. All such cases were excluded, but two-thirds of the group on admission showed a temperature ranging from 99 to 100.2.

On discharge, only two showed a temperature above 99, while the rest were practically normal. The total gain in weight for the thirty children was 113 pounds, ranging from one to seven pounds, while the average gain was 3.8 pounds.

Less than thirty days of intelligent care and feeding, of exercise and rest in the open air, had transformed these children who came limp, pallid, physically blighted, without enough energy in the body to light the mind, into approximately normal pupils, alert, attentive and able to keep up sustained interest in their school work. It was a remarkable demonstration, too valuable, people felt, to be discontinued.

The roof of the Mary Crane Nursery, with its tent equipment, offered the best available site in Chicago. The first year-round open air school in the city was opened in October, 1909. It was maintained through a contribution from the Elizabeth McCormick Memorial Fund and was carried on by the United Charities, the Board of Education and the Tuberculosis Institute. Closely following this, the Public School Extension Committee of the Chicago Woman's Club, under the chairmanship of Mrs. A. W. Bryant, co-operated with the school board in establishing two classes for anæmic children in open window rooms, one in the Moseley and one in the Hamline Schools. Here the regular régime was broken by a rest period and lunches of bread and milk were served twice each day.

The school board had also arranged for fresh air rooms in the Graham School. Mr. Watt, the principal, enthusiastic over the success of the summer school, argued that fresh air

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would also be good for normal children. The Elizabeth McCormick open air school aimed to meet the needs of children who showed signs of tubercular infection. They came from tuberculosis clinics, visiting nurses, settlements, charity workers, public and private, from every agency that dealt with physically backward children. The enrollment, at first limited to twenty-five, was increased to thirty-five, because the pressure for admission was so great. Four girls too old for school work were given light work in the nursery and shared in the benefits of the especially prepared food and the rest period of the pupils. Still, many more were turned away. In all, fifty-four made application for admission in spite of the fact that the idea was new to Chicago, and many people prophesied that the school could not and would not with safety to the pupils be held on the roof during the winter.

To prevent the fulfilment of so dismal a prophesy, the children were protected against the cold by picturesque Eskimo suits made of heavy blankets which they slipped on over their ordinary clothing. The peaked caps were sewed firmly to the jackets and could be thrown back if desired. Both boys and girls wore, tucked into lumbermen's boots, loose-fitting blanket trousers which combined warmth with the utmost freedom of movement. Thick gloves, extra blankets, and soapstones for use on extremely cold days completed the outfit, the expense of which was borne entirely by the Elizabeth McCormick fund. All these garments were the property of the school and each child was held responsible for nightly putting his own suit into his own locker. For the teacher a fur-lined coat and a fur cap were provided. In addition to the clothing for school wear, in some cases it was found necessary to provide underclothing, rubbers and overcoats which remained the property of the individual children.

The day nursery on the roof of which the school was held presented peculiar advantages as a laboratory for carrying on

such an experiment. The equipment of the building, which included shower-bath and dispensary on the first floor, dining room and kitchen on the third floor, store-room and tent on the roof, toilet rooms on the first floor and roof, and elevator service was given freely to the use of the school children.

The roof, illustrated on the following page, is completely inclosed by a high framework covered by wire netting. Against this netting young evergreen trees replaced during the winter the vines which covered the meshes in the summer months. The trees not only served the extremely practical purpose of a good windbreak, but lent a perpetual air of Christmas festivity to the place which was reflected in the joyous faces and merry spirits of the children.

When Christmas Day really came, the little trees were literally used for the purpose for which Nature had so evidently created them, and stood about the roof bedecked with the simple gifts which the children had made for themselves and for the teacher, and covered with the glittering crystals of the snow. Germany took her sick children to the pine forests to school; Boston put her little patients into classrooms on the roof; it remained for Chicago to bring the trees to the children and give her pupils a forest school on a city roof.

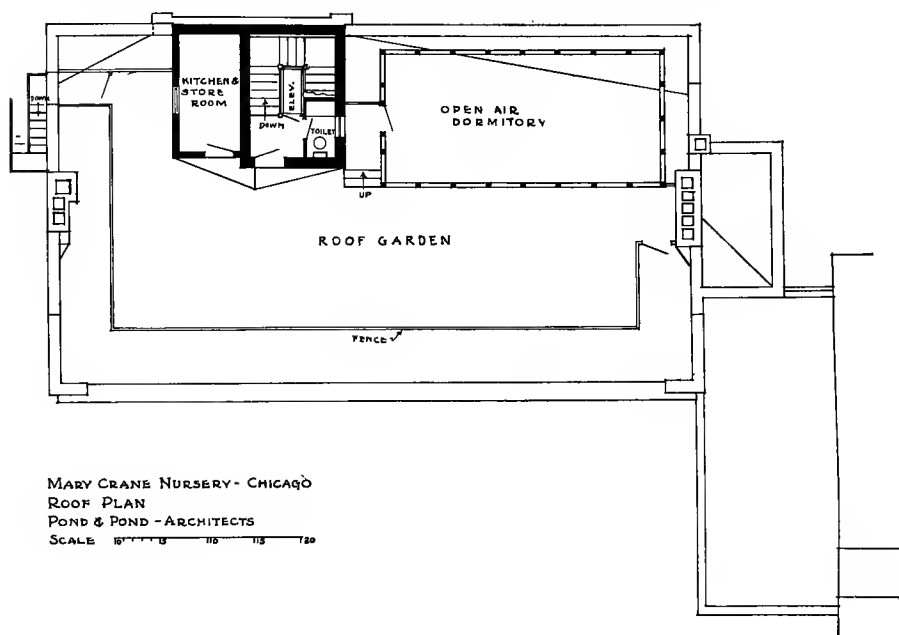
Completely encircling the tent which stood among the trees were windows which swung out, canopy fashion, making an open zone clear around the tent. These windows could be dropped on the side from which a storm might come.

The teacher, the supervisor of the school work, as well as the desks, blackboards, and all equipment were provided by the Board of Education. No heat whatever was furnished in the tent, but heated soapstones were placed at the feet in extremely cold weather. No one seemed to have difficulty at any time in handling pen or pencil although the thermometer often went below zero.

Outside of the inclosed tent was a large shelter tent which

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consisted simply of a canvas top, without sides, to protect from rain or extreme heat. Here the children took their daily naps, tied up snugly in their warm sleeping bags and stretched out full-length on canvas cots. The younger children, and those who were least well, often spent the entire afternoon in



MARY CRANE NURSERY - CHICAGO
ROOF PLAN
POND & POND - ARCHITECTS
SCALE 1/8" = 1' 0"

rest and no one was urged to come into the tent to school if the teacher was convinced that the sleep would do him more good. Though the physical development was thus apparently put ahead of the mental growth, a glance at the record of advancement made by the pupils shows clearly that the mind was very far from suffering by such treatment.

At the other end of the shelter tent stood a long table on which the hot lunch was served at nine and three-thirty. A small store-room on the roof gave space for the dish cupboard

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and gas stove where the lunches could easily be prepared by the cook. On the other side of the store-room were lockers for wraps and supplies.

Store-room, toilet and asbestos tent were already on the roof; the shelter tent was the only addition to be made for the



BOTANY AT CAMP

school. The Elizabeth McCormick Memorial Fund, which provided for the expenses of conducting the school, also financed the Infant Welfare Work for which these buildings on the roof had been previously erected.

With this equipment the school was carried on from October to June. In June, pupils and teacher went for one

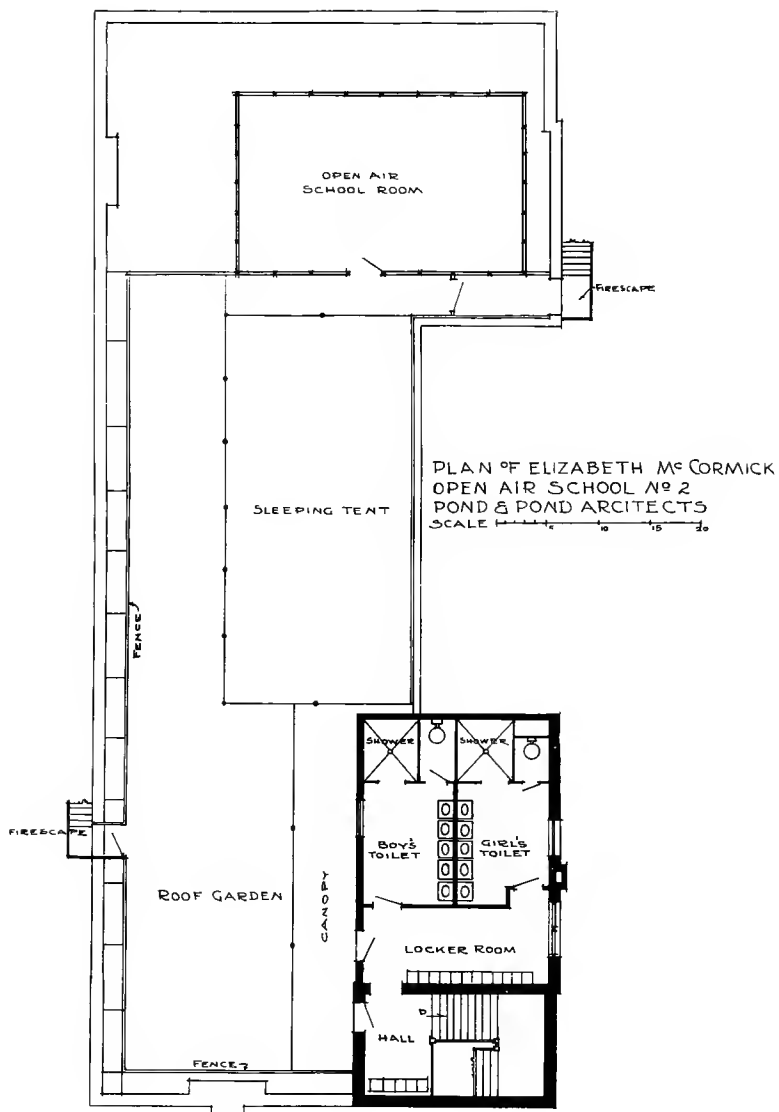
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month to Camp Algonquin, the summer camp maintained by the United Charities, where the women and children of the poorer districts of the city are given two-week outings. The beautiful grounds on the bank of the Fox River, the roomy cottages, the immaculate cleanliness of dormitory and dining-hall, the joys of camp-fires, baseball, swimming pool, oaks and brook impressed more deeply upon the minds of the children the high standards of personal conduct and pleasant home life which it had been one special aim of the roof school to inculcate.

The changes also afforded opportunity to regulate absolutely all the conditions affecting the pupils in a way quite impossible in the city, where they must return at night to homes which, in spite of the most conscientious efforts of the visiting nurses, sometimes undid, in large measure, the good received during the day.

There were, then, during the school year 1909-10, three distinct classes of children cared for by three distinct agencies: the normal pupils in the lowered temperature rooms at the Graham school; the anæmic children, with rest period and two lunches, in the fresh air rooms equipped by the School Extension Committee of the Woman's Club; and the tubercular boys and girls in the fresh air tent on the roof, where Eskimo suits, sleeping outfits, three meals a day and medical and nursing attendance were provided by the Elizabeth McCormick Memorial Fund. The same condition existed through the following year, 1910-11, with the addition of one open air school on the roof of a municipal bath building, given rent free by the board of health, and two open window rooms for anæmic children in the Franklin School, all three operated by the Elizabeth McCormick Fund.

So much general interest had been aroused by the first Elizabeth McCormick Open Air School, and so many inquiries poured in about its methods, that the trustees of the founda-



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tion decided to prepare a detailed report of the work which should be available for free distribution. A little book under the title of "Open Air Crusaders" was the result, and two editions of five thousand each were practically exhausted within the year. This was based on the one school and covered only its first full year.

In 1911, the board of education requested the Elizabeth McCormick Memorial Fund to assume the responsibility for all the open air school work carried on in the Chicago public schools and to attempt to standardize the methods which should be employed in the conduct of such schools.

The medical side of the work was under the general supervision of a staff composed of the physicians in attendance at the several schools, the Commissioner of Health, and others expert in tuberculosis work.

There were in operation eleven schools, four distinctly open air schools and seven open window rooms. The roof of the Hull House Boy's Club was pressed into service as an open air school, and another was on the roof of the engine house at the Graham School. The fourth was on the roof of the Cregier bath. All of the open window rooms were in school buildings.

The medical attendance at the Elizabeth McCormick Open Air Schools One, Two and Three, and for the open window rooms at the Franklin, was provided by the foundation. At the Hamline, Foster, Moseley and Graham, the school physicians provided by the board of health were given extra time in which to make the examinations and inspect the pupils. The matrons and attendants, food and equipment at all the schools were provided by the McCormick foundation. The work will be continued on much the same lines during 1912-13.

For the last two months of the school year, a statistician was engaged to gather all the available facts concerning the children in attendance at the open air and open window rooms,

particularly such as concerned their previous school record. The physical gains made in the open air school were an undisputed fact, borne out by many records, but it was especially desired to compare the attendance and scholarship of each pupil not with some "normal child," and not with the average of his fellows in the public schools, but with his own past record. Owing to the fact that in the Chicago schools scholarship is not recorded under the fourth grade and attendance record books need only be preserved one year, the past records in many cases proved impossible to get. It was, of course, impossible, except in the case of really sick children, to compare the physical gains made this year with those of previous years, because ordinarily, until the child entered the open air, no school records of his physical progress had been kept.

The facts tabulated were taken from the records of the nurses, teachers, and doctors who had charge of the open air work. No child was included in the tabulation who had been in attendance less than one school month. The inquiry covered 367 pupils. Of these, 277 are still in the open air; 55 have been returned to the regular school room; 9 had to be sent to sanatoria or hospitals. Of these remaining, 17 cannot be traced; 4 have gone to work, and 5 have moved away.

Ninety per cent of those whose present condition is known show decided improvement in health, spirit, and intellectual power.



ELIZABETH MCCORMICK SCHOOL No. 2.

HOW TO EQUIP AN OPEN AIR SCHOOL



Within the last two years a decided change has come in the letters of inquiry concerning open air schools. Peo-

ple who used to write, "What do you think of open air schools?" and "Don't the children catch cold?" are now asking, "What kind of foot covering is best?" and "How many feedings a day do you find necessary?" Reports from other cities show various methods of adapting local conditions to the needs of the open air and visitors bring word of practical devices for increasing comfort or lessening expense. The value of the open air school is established, but the best methods of operation are still in process of evolution.

The structure of the building which is to be used for open air work varies with the locality. A most encouraging indication of the awakening interest in the question of ventilation is shown by the number of architects and engineers who have written, many of them within the last year, for copies of the last edition of "Crusaders." The new Eagle School of Cleveland, with its entire top floor designed for open air work, is a realization in stone and brick of the new idea. Boston and New York have voted, through their boards of education, that each new school building erected shall have a specially designed room in which the physically sub-normal child may receive open air treatment.

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The adaptation of school rooms usually means simply the installation of windows which are made to open more widely than the ordinary window, either by swinging out on a cord, by dropping down into a sash, or by swinging on a hinge, like a French window. In some instances these windows open on a balcony or a roof where the children may rest or play in favorable weather. The whole purpose is to get as much air and sunshine as possible into the room.

Many cities have erected small, separate structures either on roofs or in school yards for the accommodation of the twenty-five children who are the average unit for the open air school. St. Louis went into the outskirts of the city for a site and put up a frame structure with kitchen, toilet facilities, school room and veranda. This made an expensive undertaking, but the results have already justified it. The school has been in session six days a week, with no pause for vacations, since the day of its opening and within nine months, fourteen of the twenty-five pupils have been discharged to the ordinary schools, as cured.

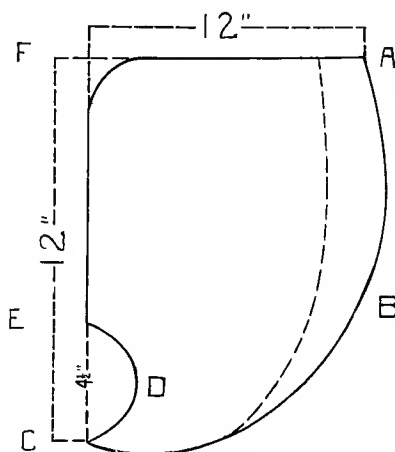
Kenosha, for a very small amount, erected a shack that served admirably. The necessity of putting in plumbing and gas was avoided by using the conveniences of a near-by school building.

All through California, little one-story, open window buildings are springing up. Toilet facilities are provided but no kitchen, since less feeding is usual in the milder climate.

In Chicago, a tent, either of wood or asbestos board, about 14 by 17, with double canvas roof and windows swinging open all around, has been found the most serviceable for the school tent on the roof. In two of the four tents provided by the McCormick foundation, no heat at all is furnished; in one, a single coil of steam-pipe runs up from the flat below; and in one, which is located directly over the boiler room of a public school building, four coils of steam-pipe pass around

HOOD

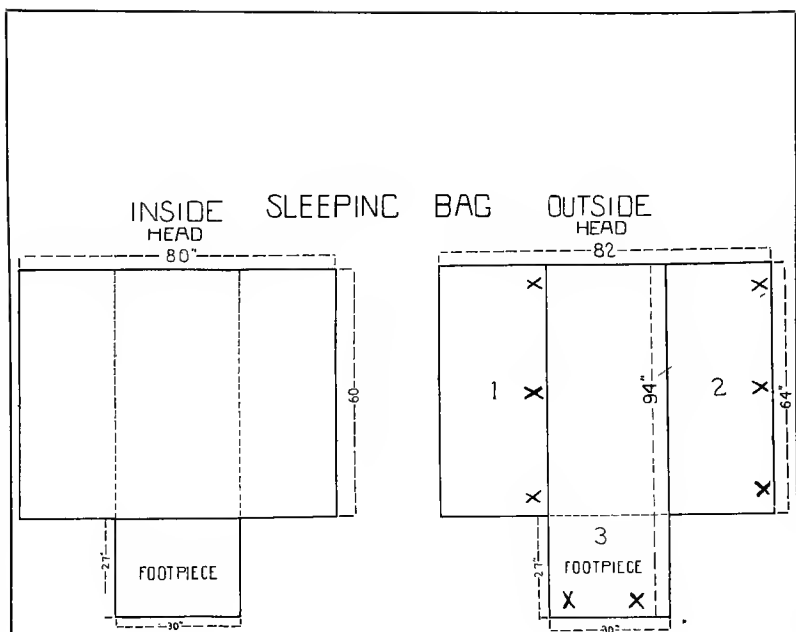
- AF placed on fold of goods.
 FC straight edge of goods: stitch in flat seam.
 ABC face line, folded back when in use.
 EDC line where hood is attached to collar of suit.
 x tapes to tie hood closely about the face.



DIRECTIONS FOR MAKING THE ESKIMO SUITS.

(By Request.)

The Eskimo suits are simply double-breasted pajamas cut from heavy woolen blankets. The suits are to be worn over the other clothing, so large sizes are used and the legs and sleeves are shortened to fit the individual. To the collars are fastened hoods with tape so placed as to tie snugly about the face in severe weather. The outfit is completed by a pair of heavy felt boots, the soles covered with material like the suit, with a thick interlining of paper.



DIRECTIONS FOR MAKING SLEEPING-BAG.

(By Request)

Inside: Shoddy woolen blanket 60 inches by 80 inches.

Footpiece: 1-6 of blanket, added to center of lower line.

Outside: Dark brown canvas, 28 inches wide, cut in three strips, 64 inches, 64 inches and 94 inches, respectively, and stitched together as shown in cut.

Edges of canvas are folded back to cover edges of blanket, leaving 1 inch edge of double canvas.

Crosses show position of 12-inch tapes.

In use, flaps are folded in order as indicated.

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the room, just above the wainscoting. Although the children's feet are kept warm in the rooms without heat, by providing soapstones and boots, it is done with much less difficulty in the rooms where the floor is somewhat warmed. Fresh air, not cold air, is, after all, the end to be reached. In all four schools the meals are served in a warm room; the bath-rooms are warmed, of course, and there is always a warm place close at hand to which a child may go if chilled.

The school equipment of desks, book-case, teacher's desk, movable black-board and the various small articles which are needed for school purposes are supplied by the board of education.

The individual equipment for each child includes:

Eskimo suit (Made to order)	\$4.00
1 double wool blanket	6.50
Canvas folding cot (special, 28 x 66 in.)	2.50
Sleeping bag (canvas, lined with cheap blanket)	2.00
Felt boots90
Mocha kid gloves, fleece-lined85
Thermometer25
Tooth brush10
Paper napkins10
Record sheets10
Towels	1.00
Laundry	1.50
Miscellaneous disinfectants20
Total	<hr/> \$20.00

On entrance, each child is given a number, which appears on every article of his individual equipment and on his locker. The excitement of fitting suits, boots and gloves to twenty-five eager children cannot be gone through with every morning.

The Eskimo suits are made in the sewing room of the Mary Crane Day Nursery, from the patterns illustrated on page 113. Since they are worn over ordinary clothing, it is necessary to order at least a two years' larger size for each child.

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After trial of both, we have found the suits made to order better than the ready-made suits which may now be procured. The home-made suits are more ample and more securely put together, and therefore wear better than



GETTING READY FOR THE AFTERNOON NAP

the factory-made. When a child leaves the school, his suit is washed and disinfected and made ready for his successor.

The foot covering has been a source of much difficulty. The problem is to find something that is warm, light and durable. Many schools have padded sitting-out bags into which the children thrust their feet while in school. Others use leggings and overshoes. We have found nothing better than the lumberman's felt boot with the soles reinforced by double thicknesses of heavy blanket. These boots come to the knee and the trousers of the Eskimo suits are tucked into them. They give much more freedom of movement than is

possible when the sitting-out bags are used. One pair of boots, with patching, should last a child during the school year, for of course there are many days when they need not be worn.

Warm gloves, one size large, sewed to a tape which is fastened to the back of the collar, under the Eskimo hood, keep the hands warm and permit the use of pen or pencil.

The sleeping-bags, also illustrated on page 114, are more cheaply and satisfactorily made than bought. The heavy blanket-lined canvas is not too heavy to go to the laundry, and like all the blankets used during the rest period, it can be thoroughly disinfected before a change in ownership.

A very short trial served to convince us that cots were much better for the rest period than steamer chairs. In the steamer chair, the shoulders are hunched together, contracting the chest at the very time when it most needs expansion, and it is impossible to relax as completely as on the cots. The cots for the Chicago schools are made to order by a Chicago manufacturer, who gives us a specially reinforced light weight folding cot, with adjustable head piece, for \$2.50. A child can easily fold it and carry it to the locker room.

For extremely cold weather, hot soapstones prove very comfortable at hands and feet. They are awkward things to handle, however, and until the soapstone box was devised, blankets were occasionally burned. Now each child trots cheerfully along to school, swinging his box by the leather handle, and the blankets no longer suffer.

A fur-lined coat with high fur collar, an electric pad for the hands, and either felt boots or fleece-lined shoes make the teacher comfortable.

If baths are to be given, the ordinary equipment of towels, soap, rubber caps and the like must be provided. In three Chicago roof schools a cold shower bath is given every child every day. Pocket combs and nail files in the bath-room wrought amazing improvement on hands and heads.

In the open window room, where the temperature is supposed to be kept about fifty-five degrees, we have provided sweaters and stocking caps when the children could not buy them themselves. The location of the room, its exposure and its relation to nearby buildings make so much difference in the case of ventilation, that even in the same building we find wide ranges of temperature in rooms which we are trying to keep the same. Experiments in such rooms have disclosed pockets in which the air is not circulating properly in spite of open windows. The amount of clothing, then, varies with the room. The one inflexible rule is that the child must be comfortable. The work ought always to be done under the direction and supervision of a competent physician who can devote sufficient time to insure wise arrangement.

ADDENDA

SUMMARY OF RESULTS IN FOUR OPEN AIR SCHOOLS, CHICAGO, 1911-12

In the four schools, there were enrolled, for periods of over one month, 127 children. The effort was made to compare the record made by these children in the open air schools with the previous record which they had made in the closed schools. In some cases it was found impossible to trace the back record. In such instances the number of children for whom the record was incomplete was deducted from the total and the basis of comparison was only that number of pupils whose records were complete.

In attendance, complete records were secured for 92 children. Of these, 61, or 66.3 per cent, gained; 10, or 10.8 per cent, remained the same; 21, or 22.8 per cent, lost.

	Per cent
In School No. 3, the percentage of attendance for the room this year was	96.3
Last year, for the same room, it was	91.6
The four children who came from closed rooms brought records of . . .	45.5
In School No. 4, the percentage of attendance for the room this year was	95.9
The 25 children out of 32 for whom last year's records could be obtained, had made last year, in a closed room	81.5
The largest recorded gain in attendance was	67.0

In scholarship, complete records were secured for 94 children. Of these, 66, or 70.2 per cent, gained; 25, or 26.6 per cent, remained the same; 3, or 3.1 per cent, lost.

In School No. 3, the percentage of scholarship for the room last year was	77.9
This year it was	82.6
In School No. 4, the percentage of scholarship last year was	74.4
(This in closed room)	
The percentage of scholarship for the same children this year was . . .	86.6

In weight, the records cover only the present year and record the gains made in the open air school only. Records are complete for 113 children. Of these, 104, or 92 per cent, gained; 7, or 6.1 per cent, lost; 2, or 1.7 per cent, remained the same.

OPEN AIR CRUSADERS

Comparison of results in six Chicago schools through March, 1912.

SCHOLARSHIP		OPEN	CLOSED	CONCLUSIONS
School No. 1		81.5	81.7	Totaling and averaging, the open air leads by 3 per cent.
School No. 2		81.1	73.8	
Graham Open Air		87.0	74.3	
Graham Open Window		80.8	80.1	
Hamline		86.4	90.4	
Moseley		79.7	78.1	
ATTENDANCE		OPEN	CLOSED	CONCLUSIONS
School No. 1		97.2	100.0	Totaling and averaging, the open air leads by 6 per cent.
School No. 2		89.0	96.9	
Graham Open Air		90.0	41.4	
Graham Open Window		90.4	89.7	
Hamline		88.8	95.7	
Moseley		87.9	85.0	
DEPARTMENT		OPEN	CLOSED	CONCLUSIONS
School No. 1		95.0	91.9	Totaling and averaging, the open air leads by 5 per cent.
School No. 2		91.0	82.5	
Graham Open Air		94.3	91.2	
Graham Open Window		90.8	80.1	
Hamline		96.0	90.4	
Moseley		87.5	90.0	

Division of Child Hygiene—Parent's Consent Card

To the Parents of

Address

Your child attending the School

shows evidence of the following condition:

In the interest of the child's welfare kindly give permission to have a thorough examination of the child made by the school doctor.

Parents can be present at the examination if they desire.

Please sign this card and return it to the School.

G. B. YOUNG,

Commissioner of Health

Parent's Signature

1. Name of School.....	3. Address.....	
2. Name of child.....		
4. Age.....	5. Sex.....	6. Birthplace of child.....
		7. Nationality of father.....
8. Sent by.....	9. School last attended.....	10. Number in family.....
11. Number of rooms.....	12. Rent.....	13. Weekly income.....
		14. Slept alone.....
15. Cases of tb. in family.....	living.....	16. Probable source of tuberculous infection.....
17. Date of admission to open air.....	18. Date of discharge.....	
19. Reason for leaving.....	20. Number of school days in attendance.....	
21. Percentage of attendance last year.....	22. Percentage of attendance this year.....	23. Gain or loss.....
24. Percentage of scholarship last year.....	25. Percentage of scholarship this year.....	26. Gain or loss.....
27. Grade last year.....	28. Grade this year.....	29. Gain or loss.....
30. Highest temperature during 5 days following admission.....	31. Highest temperature during 5 days preceding discharge.....	
32. Weight on admission.....	33. Weight on discharge.....	34. Gain or loss.....
35. Chest expansion on admission.....	36. Chest expansion on discharge (Breathing exercises practiced, not practiced).....	
37. Diagnosis on admission.....	(a) By physical examination.....	
	(b) By use of tuberculin (state method).....	
38. Present condition: Improved.....	Not Improved.....	
39. Remarks: By teacher.....		
	By doctor.....	
40. Summing up of results accomplished in case.....		

A STUDY IN JANUARY SCHOOL ATTENDANCE

Average daily temperature in Chicago during January, 1912, 11.9 degrees above zero.

Percentage of attendance is given in all cases.

Elizabeth McCormick Open Air School No. 1, on the roof of the Mary Crane Nursery	93.6
Elizabeth McCormick Open Air School No. 2, on the roof of the Hull House Boys' Club	97.0
Foster School, of which these two open air schools are a part	92.8
Elizabeth McCormick Open Air School No. 3, on the roof of the Cregier Public Bath	97.26
Franklin Open Window Room No. 1	93.3
Franklin Open Window Room No. 2	89.8
Franklin School, of which the open air school and the open window rooms are a part.	93.8
Graham Open Air School	91.3
Graham Open Window Room	94.9
Graham School, of which the Open Air School and the open window room are a part	88.4
Hamline Open Window Room	96.3
Hamline School	93.2
Moseley Open Window Room	86.0
Moseley School	87.4
This gives a total percentage for the open air and open window rooms, taken together, of	93.3
For the schools of which they are a part, a total of	90.6
For the entire grammar school system of the city	92.3

Thus the open air pupils' attendance averaged $2\frac{1}{2}$ per cent higher than that of their former classmates in the ordinary school buildings, and 1 per cent higher than the attendance all over the city.

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